



1663



CAVENDISH
PHILOSOPHICAL
OPINIONS

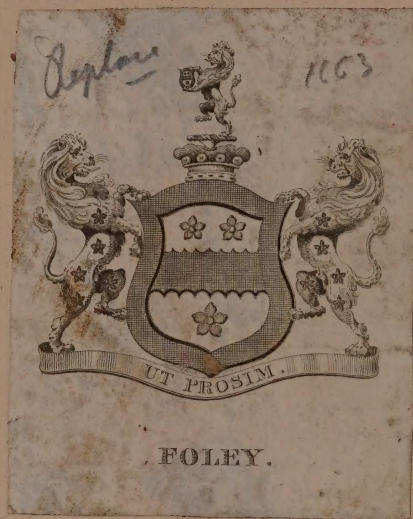


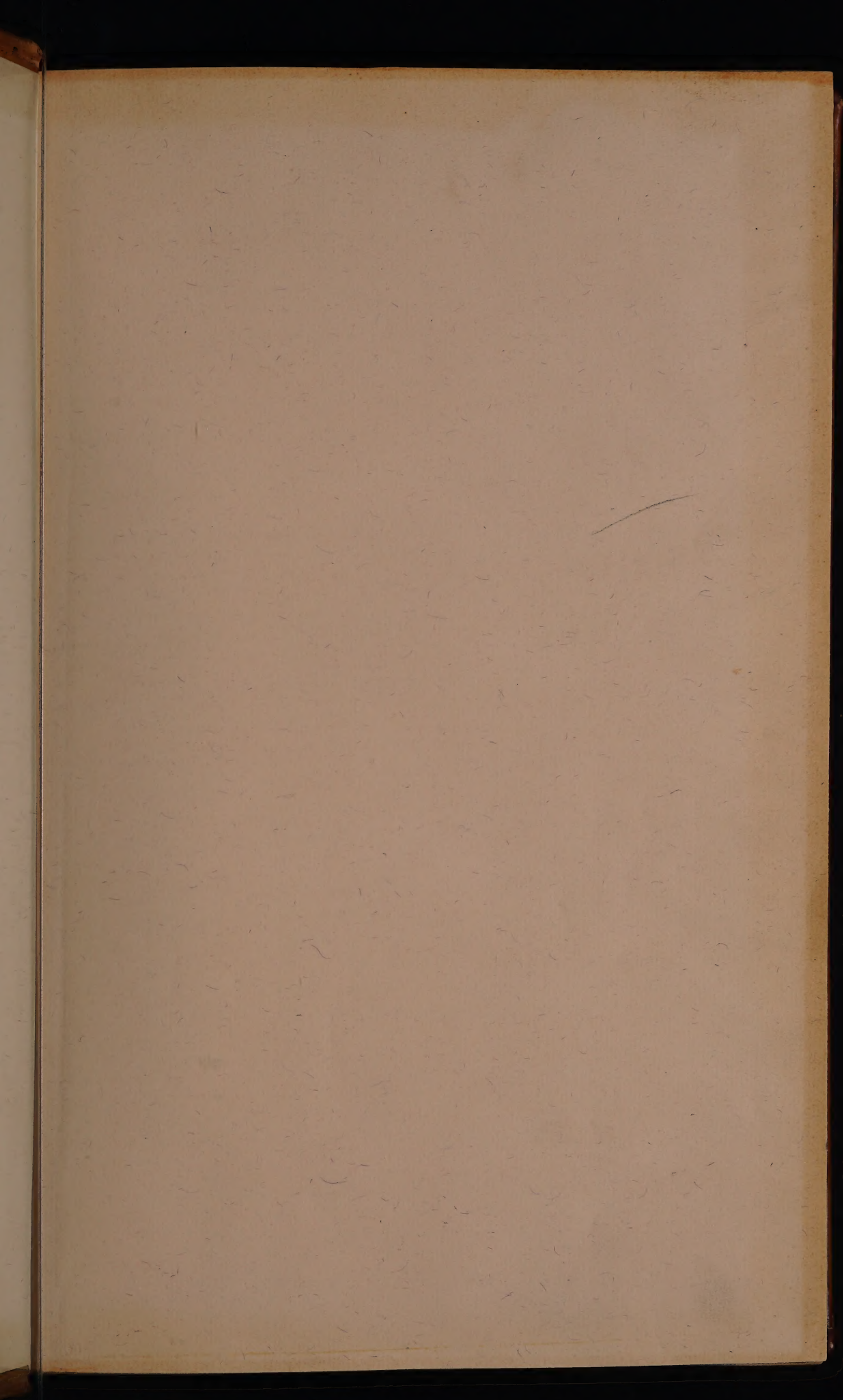


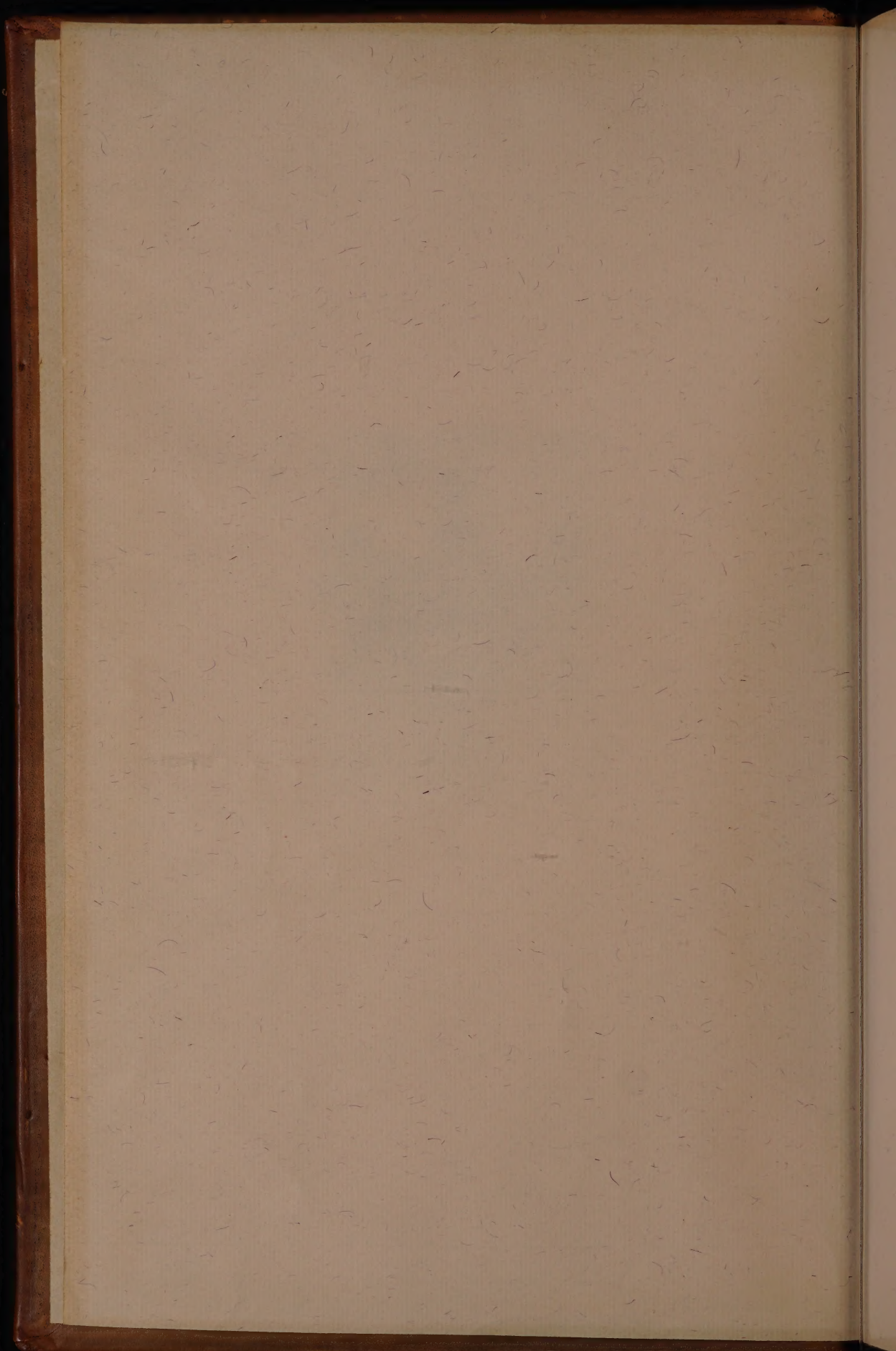


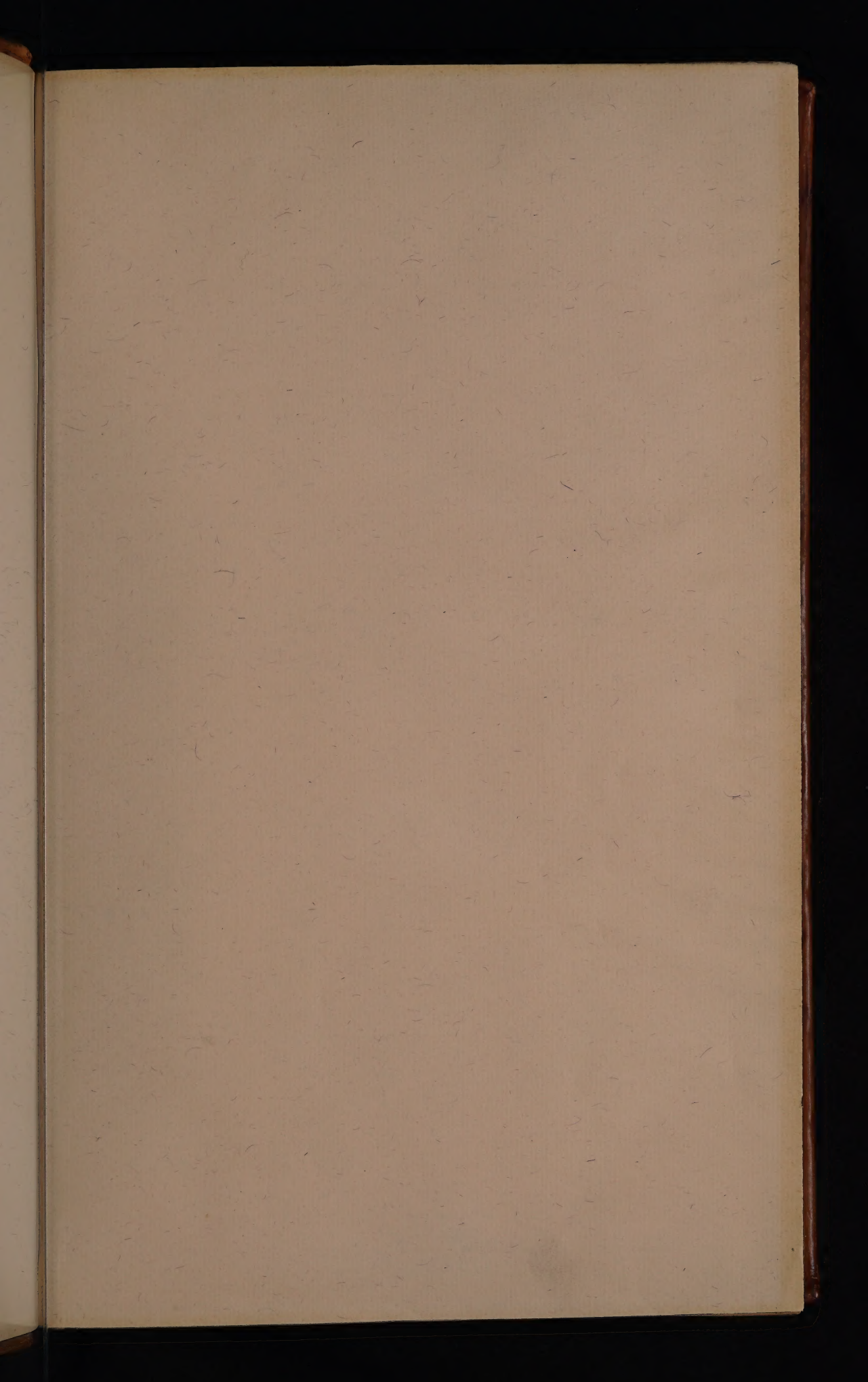


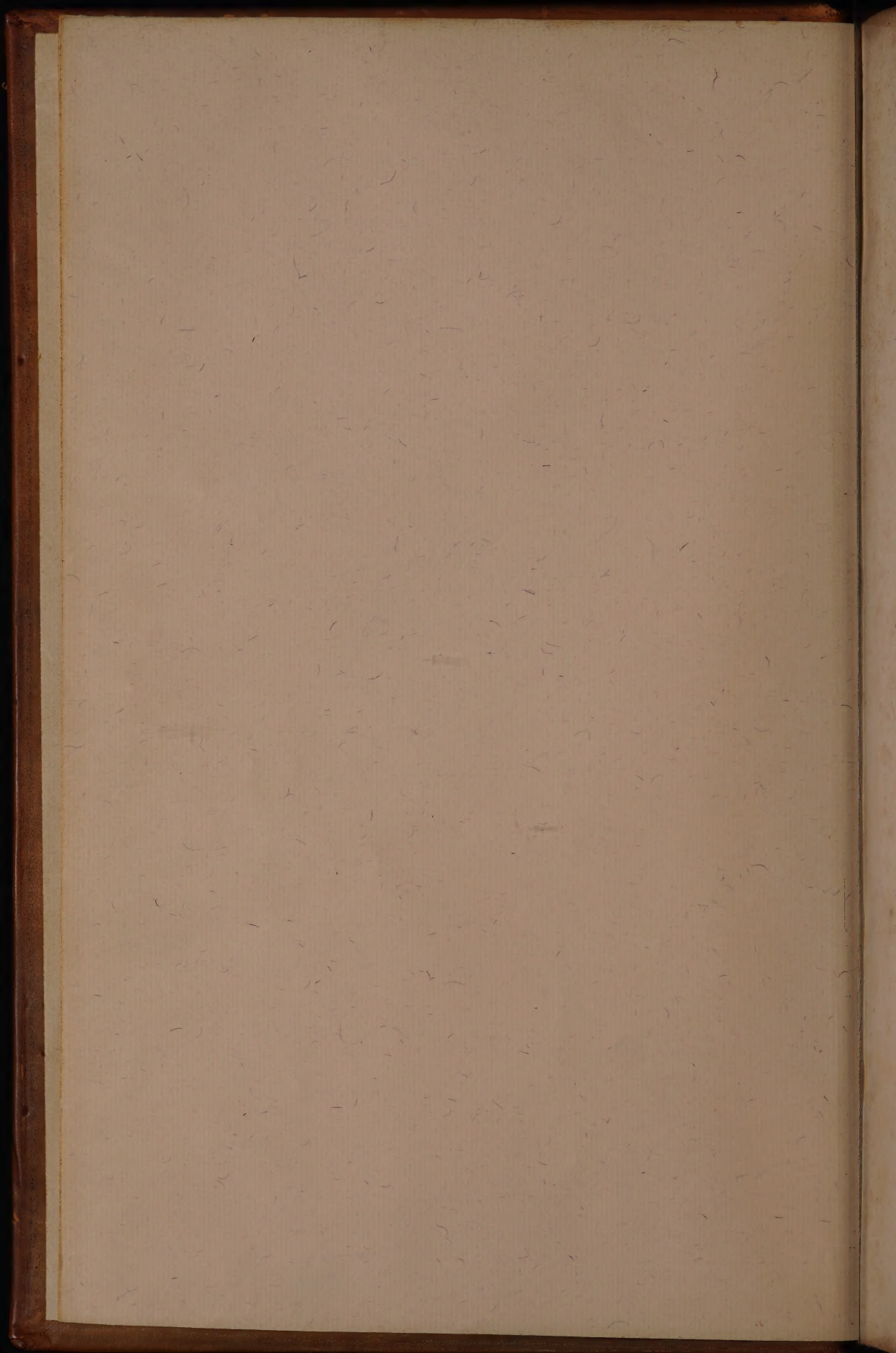
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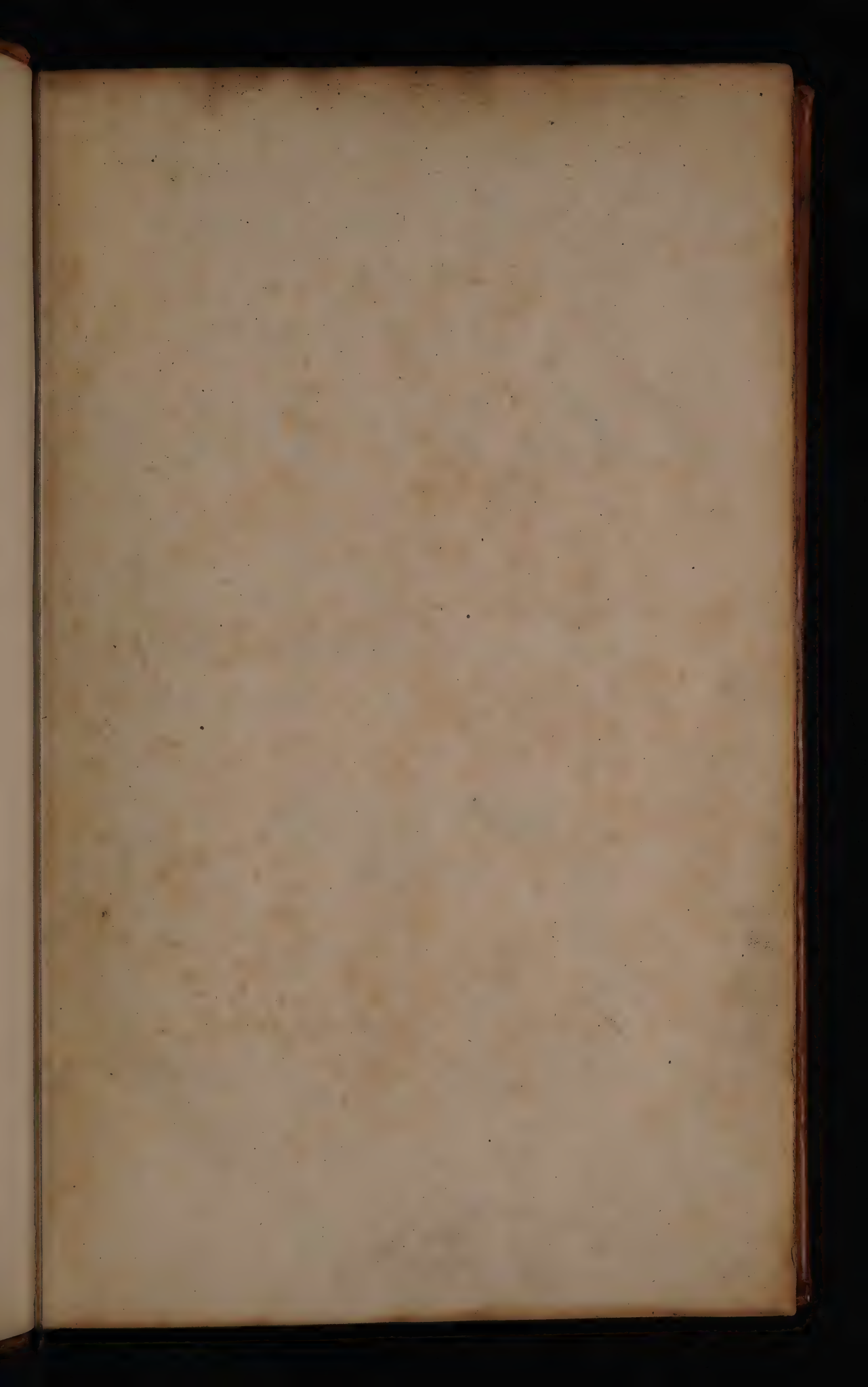












CAVENDISH (Margaret) Duchess of Newcastle

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PHILOSOPHICAL AND PHYSICAL OPINIONS.

WRITTEN

By the Thrice Noble, Illustrious, and
Excellent PRINCESS, the LADY
MARCHIONESS of NEWCASTLE.



LONDON,

Printed by WILLIAM WILSON, *Anno Dom.*
M.DC.LXIII.





TO the LADY MARCHIONESS
OF
NEWCASTLE,
On Her BOOK of
PHILOSOPHY.

*WHAT Numbers of Philosophers did Write,
Puzling the World, to Know still what was Right,
Themore were Read, the more Confounded still,
With Strange Opinions they Mankind did Fill,
Sailing in Nature's Ship, they still were Toss'd
On Unknown, Foaming Billows, they were Lost,
Their Sails of Folly Torn, their Rudder Broke,
And all their Cables Slacken'd, Lost their Hope;
Their*

*Their Judgments, Understandings, Drown'd so,
Because they Writ of what they did not Know,
Were all but Guessers, then this LADY may
Write her Opinions, Better than all they,
And Set up for her Self, for all may find,
Reading her Book, 'twill make them of her Mind,
So Rational, such Solid Judgments hight,
As all Wise Men will Swear, that it is Right.*

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WILLIAM NEWCASTLE.

TO



TO HIS
EXCELLENCIE
The Lord Marquis of
NEWCASTLE.

My Noble Lord,

SInce your Return from a long Banishment into your Native Country, retiring to a Shepheard's Life, I your Shepheardess was resolved, to imploy all my Thoughts and Industry in good Huswifry, knowing your Lordship had great Debts after your great Losses; and though I am as Industrious and Carefull to serve Your Lordship in such imployments, which belong to a Wife, as Household affairs, as ever I can, and not to be Sordidly base, which is a Vice, Your Lordship hates, yet I cannot for my Life be so good a Huswife, as to quit Writing, to follow my Sheep so Carefully, but that they will go Astray some times; the truth is, I have somewhat Err'd from good Huswifry, to write Nature's Philosophy, where, had I been prudent, I should have Translated Natural Philosophy into good Huswifry; for Your Lordship, who hath as Deep Conceptions and Subtil Observation in Natural Philosophy, and as Curious Fancies and Clear Distinguishing in Poetry, and as much Ingenuity to Arts as Speculation into Sci-

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Sciences, yet you are in a manner forced, to lay them by, since your Return into your Native Country, imploying your Thoughts and Actions in helping to Repair your ruined Estate, that was caused by Cross and Malicious Fortune, which, I have heard Your Lordship say, was never your Friend. 'Tis true, My Lord, I have observed, She hath been Cruel to you, but the Great God of Heav'n hath Favour'd you much, as to Keep you Safe in the days of Battel, to Provide for you in the times of Banishment, and to Return you into your Native Country and Company of your Dear Children, So that God hath rewarded your Honesty, Fidelity, Virtue and Merits, although Fortune did oppose your Power, and hath almost ruined your Estate, which your Wisdome will repair, as well as it can, and what cannot be, Your Lordship hath Patience to Suffer, which Patience is no Novelty to you, who hath had more Use of it, than most Men have had; But though Your Lordship hath many Troubles, great Cares, and much Business in your particular Affairs, yet you are pleased to Peruse my Works, and Approve of them so well, as to give me Leave to Publish them, which is a Favour, few Husbands would grant their Wives; But Your Lordship is an Extraordinary Husband, which is the Happines of Your Lordships

Honest Wife and

Humble Servant

MARGARETA NEWCASTLE.



AN
EPISTLE
TO THE
READER.

Noble Readers,

TO Treat of Every particular Motion in Every particular Part of Every particular Creature, is beyond my Capacity, and to Treat of Some particular Motions in Some particular Parts of Some particular Creatures, is very Difficult for Me to do, having a Weak Body, and a Weak Mind, so that I Fear my Readers would think my Mind a Busie Fool, and my Body an Idle Animal, if I should Offer or Endeavour to do it ; But howsoever, I am resolved to Venture on their Censure, rather than Bury my Opinions in Oblivion. Wherefore, in this Work of mine you will find, not only my Former Philosophical Opinions Enlarged, but much Reformed and Corrected ; for though I

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Epistle to the Reader.

keep to the first Ground or Principle, that is, to Sense and Reason, which is Life and Knowledge, yet I have indeavoured here to Build upon that Ground, not only a Larger, but a more Exact and Perfect Fabrick, wherein every Several Chapter, like Several Rooms, have as Much and as Clear Lights as I can give them, and if any Part should seem Obscure to my Readers, I should be Sorry for't, for I can assure you, that all these Opinions seem Clear to my Conceptions, as also to my Sense and Reason, though I do not know how they will seem to your Understanding, for they being New Opinions, never Broached before but by Me, are like New Extracts, Effences or Spirits, whose Substance is not easily Discerned or Found out, and therefore not Generally known of what Matter they were made, and I being a Woman Cannot, or if I could, it were not Fit for me Publickly to Preach, Teach, Declare or Explain them by Words of Mouth, as most of the most Famous Philosophers have done, who thereby have made their Philosophical Opinions more Famous, than I fear Mine will ever be; for though Writing and Printing Explains the Text; yet it doth not so Clearly Expound it as Speech would do. But I am in Hope, this my Work will meet with Understanding Readers, to whom I Leave it.

Theology for the most Part is drawn out of Natural Philosophy, witness the Arguers and Writers in Theology, for some Plead for the
Præ-

Epistle to the Reader.

Præ-existence of Men's Souls , some for their Transmigration , others for their Creation, whereof some are *Pythagoreans* , and others *Aristoteleans* , and so they Talk and Write of God's Actions, according to *Pythagoras's*, *Plato's*, or *Aristotle's* Opinions, which is Ridiculous, since God's Decrees or Actions are not to be Known, and therefore not to be Disputed; neither can they Tell whether Divine Souls be Corporeal, or Incorporeal , or how God will Dispose of such Divine Souls as are above Natural Matter, Causes, and Effects. But, Noble Readers, I desire you will take Notice , that I meddle not with the Particular Divine Souls of Men , but only the General Soul of Nature, which I name the Rational matter, neither do I insist only upon the Particular Life of Mankind, but the General Life of Nature, which I call or name the Sensitive matter, both which is Animate matter ; neither do I Treat only of the Bodies of Men , but of the Body of Nature, which I name the Inanimate matter, all which is the Infinite matter of Nature, that is, the Soul, Life, and Body of Nature , the Sensitive and Rational being the Quintessence, Spirit, or Purity of Nature, but the other Part a more Gross and Senseless matter. And as I do not meddle with the Divine Souls of Men, so I do not as many Men do, which Study, Argue, and Write much, to Prove there is a God, as also to Prove his Power, Will, or Decrees, all which is a Presumption for Men to do, for Men cannot Prove;

Epistle to the Reader.

what they cannot possibly Know, for God hath not given any One Creature, nor All Creatures, were they Joyned into One, a Sufficiency to Know him, and since God is so much Above Nature or Natural Matter, as I a Single Creature cannot Guess at Him, I will not Dispute on Him, but Pray to that Incomprehensible and Inexpressible Deity, to Favour me with that which is Best for me.

Thus, Noble Readers, you will find, that this present VVork contains Pure Natural Philosophy, without any Mixture of Theology, for I have not Imitated the Philosophers or Theologers of this Age, who do Mix one Sort with the other, for in my Opinion this Mixture doth Disturb and Obstruct their VVorks, wherein is neither Philosophy nor Theology Clearly Argued or Declared by the VVriters, nor Clearly Understood by the Readers: Neither can Theology and Natural Philosophy Agree, for Philosophy is Built all upon Human Sense, Reason, and Observation, whereas Theology is onely Built upon an Implicit Faith, which is an Undoubted Belief of that, which the Nature of the Creature cannot possibly Comprehend or Conceive, whilst it is in this World, and in the State of Ignorance; Wherefore Poor Ignorant Man must rest upon Faith, which is Beyond Human Sense and Reason, until such time as he hath a Glorifi'd Body and a Purifi'd Soul, in which Condition he may have a Perfect Knowledge, but in the mean time, whilst he is in this VVorld,

Epistle to the Reader.

VVorld, it is a Folly to Dispute, since neither Study nor Disputation can Inform him, for Disputations and Arguments do rather Deform Religion, than Inform the Creature; wherefore it is better to Pray than to Preach, to Believe than to Dispute, the one will Reform Men from Vices and Combine them in Unity, the other will Bring Men into Atheism, or cause a Confusion and Division amongst Mankind. But, Noble Readers, this VVork, as aforesaid, is onely Natural Philosophy, which will neither Obstruct nor do Harm either to the Church or State, or to the Conscience or Life of Man, but it may rather Inform Men, or shew them a Ground to Find out those things which may be Convenient, Useful, and Profitable to the Life of Man; The Truth is, that without Natural Philosophy Men could not tell how to Live; for Natural Philosophy doth not onely Instruct Men to Know the Course of the Planets and the Seasons of the Year, but it Instructs Men in Husbandry, Architecture, and Navigation, as also Combination and Association, but above all it Instructs Men in the Rules and Arts of Physick; indeed all Arts and Sciences are produced in on kind or other from Natural Philosophy, insomuch as it may be said, Man Lives meerly by Natural Philosophy, so that Natural Philosophy is the Light that God is pleased to give Man, to Direct him in the Course of his Life; and if my VVork addeth to the Splendor of that Philosophical Light, I give the Omnipotent

Epistle to the Reader.

tent God thanks, who is onely God, and the Disposer of Infinite Matter.

But, Noble Readers, I must intreat one Favour from you, which is, to Observe the Variety Of and In this Work, for I do not onely Treat of the Infinite Soul, Life, and Body, but I Treat also of the Several Actions of that Infinite Body, Life, and Soul; I shall not need to tell you, I had neither Learning nor Art to set forth these Conceptions, for that you will find your self, by reason it is not so Compendious and Scholastical as it might have been, but I can assure you, Noble Readers, I was very Studious in my own Thoughts and Contemplations, when I writ it, for all that time my Brain was like an University, Senate, or Council-Chamber, wherein all my Conceptions, Imaginations, Observations, Wit, and Judgment did meet, to Dispute, Argue, Contrive, and Judge, for Sense, Reason, and Truth, and if you Please to give your Plausible Votes, they will have their Reward.

Also, I desire you to Excuse me, if I have made any Repetitions, for I could not well avoid it, by reason, my Book Treats of the most Subtil and Obscure Interior Motions, Degrees, and Temperaments of Matter, as also of the Several Creations and Dissolutions of Several Creatures, in Animals, Vegetables, Minerals, and Elements; all which Variety will cause some Repetitions, to make my Readers to Remember, as also to Understand the Truth, at least

Epistle to the Reader.

least my Conceptions ; for of all Studies, Natural Philosophy , as it is the most Difficult to be Expressed , so it is the most Difficult to be Understood , especially in Treating of Hidden Causes and Effects, but more, when as the Treaty is of the First Cause , from whence all Effects are Produced ; Wherefore my Repetitions are to be Pardon'd, although they are not so Many, but those which are , were made upon Necessity , at least did I think them to be so.

Besides , if you find not the Words and Chapters in this Work so Properly Placed , as they might have been , I desire you to Excuse me , for the Variety of Several Discourses in every Several Chapter did so Imploy my Brain , as it had neither Room nor Time for such Inferior Considerations , so that both Words and Chapters take their Places according as I Writ them , without any Mending or Correcting; The Truth is, my Work goes out into the World like an Unpolish'd Stone or Metall , a meer Rough-cast without any Gloss or Splendor ; but my hope is, it will meet with such Understanding Readers, as will not Undervalue the Inward Worth , through a Dislike to the Outward Form. It is Plain and Vulgarly Express'd, as having not so much Learning as to Puzzle the Reader with Logistical , Metaphysical, Mathematical, or the like Terms ; Wherefore you shall onely find therein Plain Sense and Reason, Plainly Declared, without Geometrical Demonstrations , Figures , Lines , and Letters ;
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Epistle to the Reader.

Nevertheless, since it concerns Sense and Reason in all Matter, and so Consequently in all Creatures and Actions, Forms and Figures, or what is or can be, it doth not Hinder or Obstruct Scholastical and Artificial Arguments, Rules, Demonstrations, Names, and Terms, for these my Opinions may be Discourfed of, as well according to this Manner or Way, as to all other Divers Ways, and in any Language whatsoever. Yet if I were asked, What Way I would have them Declared and Argued, I would Answer, After my own Plain Way, that the Truth, or at least the Probability thereof might not be Lost in the Labyrinth of Sophistry, produced from the Corruption of Logick, and the Mixture of several Languages.

Wherefore, Noble Readers, I pray observe, that when I Treat of Natural Creations and Dissolutions, or Natural Transmigrations, Metamorphoses, and the like, I do not Obstruct Artificial Transmigrations, Productions, Alterations, Metamorphoses, Dissolutions, &c. for Art proceeds from Nature, not Nature from Art, and Logick, Metaphysick, Mathematick, Chymistry, and the like Arts, may have as much Imployment upon the Grounds of these my Opinions, as upon any other; for Example, VVhen I Treat of the Natural Metamorphosing of Loose Elements, I do not hinder Artificial Imitations of Nature, for there are Natural Contracting Motions, that Congeal VVater into Ice, and there are also such Motions caused by

Epistle to the Reader.

by Art which do the same: Also there may be Colours made by Art as well as by Nature, and many other Examples might be given. Thus you see, that my Philosophy doth not Obstruct Art, but gives it more Natural Insight to proceed Artificially; but remember, as I mention'd before, that all Art proceeds from Nature, as also that Art can onely Metamorphose Loose and Unsettled Elements, or Loose and Changeable Humors, as I shall Declare in the Book, and not those Figures or Creatures that are Compos'd of Many and Different Motions, Parts, and Mixtures.

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Another Epistle to the Reader.

Noble Readers,



HE Ground of these my Philosophical and Physical Opinions was Printed in the Year 1653. to which in the Year 1655. I made an Addition, but after I Returned with my Noble Lord into *England*, I have since Reviewed my Former Work, and finding it not so Perfect, as I wish it had been, I have imployed part of my Idle Time to make it more Intelligible for my Readers. As for the Ground of this Philosophical work, as Matter, Motion and Figure, 'tis as Old as Eternity it Self, but my Opinions of this Ground are as New as from my First Conception, and the Truth of these New Conceptions may be as Old as Eternity, for any thing my Sense and Reason can perceive to the Contrary. But my Desire is, that I may receive this Favour and Justice from my Noble Readers, that, if any hath since the First Impression Written, or shall Hereafter Write such or the like Opinions as these I Divulge in this Work, you would be pleased to Consider, and Remember Mine as the Original, for which Favour and Justice I shall pray God to Prosper and Bless you. Also, Noble Readers, I desire you would be Pleased, if you take Delight in Philosophy, and should chance to Read my Book of Poems,
or

To the Reader.

or that Part that treats of Atoms, to Consider, ~~that~~ though the Opinion of Atoms is as Old as from the Time of *Epicurus*, yet my Conceptions of their Figures, Creating and Disposing, are New, and my Own. And as for Atoms, after I had Reasoned with my Self, I conceived that it was not probable, that the Universe and all the Creatures therein could be Created and Disposed by the Dancing and Wandering and Dusty motion of Atoms, the reason, why I think so, is as Follows: It is not probable that the Substance of Infinite matter is only Infinite, Small, Senseless Fibres, Moving and Composing all Creatures by Chance, and that Chance should produce all things in such Order and Method, such Curious Compositions, such Subtil Contrivance, such Distinctions of Several Kinds, Sorts, Times, Seasons, such Exact Rules, Fixt Decrees, Perfect Figures, Constant Successions, and the like, unless every Single Atome were Animated Matter, having Animated Motion, which is Sense and Reason, Life and Knowledge, to Move and Create other Figures, by Joyning and Uniting their Small Bodies by Consent, and Dissolving by Consent, and so Ordering by Consent and Agreement, which is not Probable; for if Every and Each Atome were of a Living Substance, and had Equal Power, Life and Knowledge, and Consequently a Free-will and Liberty, and so Each and Every one were as Absolute as an other, they would hardly Agree in one Government, and as unlikely as Several Kings would Agree in

To the Reader.

one Kingdom, or rather as Men, if every one should have an Equal Power, would make a Good Government; and if it should Rest upon Consent and Agreement, like Human Governments, there would be as many Alterations and Confusions of Worlds, as in Human States and Governments by Disagreement, for there must necessarily be as much Liberty and Power in every Atome to Disagree as to Agree. But, as I said, if Infinite Matter were Infinite Atoms, then every Atom must be a Living Substance, which is a Self-moving Substance, otherwise they could not Move, but would be an Infinite Immoving Substance; and if every Atome had not an Animate Knowledge, there could be neither Order nor Method; and if every one had an Equal Power, as Consequently every one must have, there would be a Disagreement; all which perswades me to Wave the Opinion of Atoms. But my Opinion of Atoms, in my Book of Poems, is, if the Infinite and Eternal Matter be Atoms, that those Figures of Atoms, which I there mention, as Round, Square, Long, Triangular, Pointed, and all other Figures, are part of those Figures which make Air, Fire, Water and Earth, and how they are Disposed in the Creation of Animals, Vegetables, and Minerals; also that the Weight and Quantity of each Atom must be Alike, for if every Atom be as Small as in Nature it can be, then the VWeight and Quantity of each Atom must needs be Alike, all which I treat of in my Book of Poems; but by reason it is in Verse, it is not
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To the Reader.

so Clearly or Solidly Expressed, as I might have done it in Prose ; besides, it was the First of my VVorks that I Divulged, being Printed in the Year 1653. in which Year also I caused to be Printed the first Edition of my Philosophical and Physical Opinions, but since that time I have Thought more of it, and could give Better Reasons concerning Atoms than I could then, having since Spent the most part of my Time in Contemplations ; but now I Wave the Old Opinion of Atoms, for it is not probable, they should be the Cause of such Effects as are in Nature, and it seemeth not so Clearly to my Reason, as these my Own, and Absolutely New Opinions of Natural Philosophy, which are like Chymistry, that from a Gross Substance can draw an Essence as an Extract, which in my Philosophy is Sense and Reason, that is, Life and Knowledge ; but this Essence is no Extract, being Eternal. Also, Noble Readers, give me Leave to Inform you, that I have some few of my own Philosophical Opinions in my Book, named *Olio*, Printed in the Year 1655. and some in my Book of Natural Descriptions or Tales, Printed in the Year 1656.

I confess, there have been many Learned and Studious men, which have been accounted the Sages of Former, Present, and it may be also of Future times ; but in my Opinion, they have had very Improbable, and I may say (without Dis-respect to their VVisdome) very Extravagant Opinions and Phantasms in Natural Philosophy ; as for Example, some have had an
Opinion,

To the Reader.

Opinion, that the Jogging or rather Jolting of the Earth is the Cause of the Ebbing and Flowing of the Sea, I suppose that Motion must be very Uneasie and Violent, as also Equally Constant, for if it were not Constant, the Tides would not be so Constant as they are, and if it were not Violent, it could not VVork that Effect; but if the Globe of the Earth hath such a Rough, Jogging, Jolting, Unsettled motion, as those Learned and VVise men Imagine, there would be as Constant Earth-quakes in all the Earthly Globe, as there are Tides, insomuch, as there would be no Part of or in the Earthly VVorld, a Settled Habitation for those Creatures that Live thereon.

Another Opinion of some Learned and Wise Men is, that Thunder is caused by Frozen Clouds and Roves of Ice falling upon each other, if so, most of the Creatures upon the Earth would be Knockt on the Head in Times and Places of Thunder, for I cannot perceive, but Clouds and Roves of Ice should fall down upon the Earth more Forcibly than Hail and Snow, for the Natural Air, or other Ascending Bodies cannot Hinder or Uphold those Solid Clouds of Ice, when they cannot uphold Light Flakes of Snow and Small Hail. Another Opinion of some Wise and Learned Men is, that all Exterior Motions, or Local Actions or Accidents proceed from one Motion Pressing upon another, and so one thing Driving and Shoving Another to get each other's Place, which, in my Opinion, if so, no Creature, especially Animals,

To the Reader.

mals, Could or Should Rest in one Place, but all Creatures in the World would be in a Perpetual Dance, or rather Sliding, which would produce a very Restless Life, and Wearisom to such Lazy Creatures as I am. Also some have an Opinion, that, Matter being One and the Same, and that the Heavens and the Earth, or were there Infinite Worlds, are all of the Same Matter, it is impossible to be more than One World or Universe; which in my Opinion is Nonsense, unless they make the Infinite Matter One World or Universe, for in this Mahner we may as well say, that by reason All Creatures are made of One & the Same Matter, there is but One Creature; as for Example, all Mankind is made of One Matter, wherefore there is but One Man. But in my Opinion, though the Matter be of One and the Same Entity, yet the Creatures are Different, not only made by Motion, but by several Degrees of that Only matter, and Different motions in those Degrees, so that it is the Several and Different Degrees and Motions in Only and Infinite matter, that Make or Create Several and Different Creatures Infinitely and Eternally. But this is to be Observed, that the Different Degrees of Matter, and the Different Motions in those Degrees in One and the Same Matter cause such Different Effects, as if those Degrees were Different matter. Other Wise and Learned men are of an Opinion, that there is no Rational Soul but in Mankind, at least in Animal Kind, and that the Soul of each
Liveth

To the Reader.

Liveth and Dwells in a Little Kernel of the Brain, a Small Habitation for so Subtil and Dilating an Infusion, but surely the Soul is Wiser than to Choose so Close a Prison to Dwell in, and is more Active than to be Confined; neither can an Exterior motion on that Kernel, Inform the Soul of all the Actions of the Body, or Outward Objects, no more than when one Man Knocks at another Man's Door, the Master of the House Knows why the other Knocks. Other Wise and Learned men have an Opinion, that the Soul is not any Thing, but yet hath a Beeing, but how Nothing can have a Beeing, I Leave to Rational men to Judge. Other Opinions are, that all Creatures are produced by the way of Eggs as Birds lay. Other Learned and Wise men have an Opinion, that Fire is only Motion ~~without Substance~~, to which Opinion, when My Lord heard it, he answered, that if so, then an House when it is Burnt, cannot be said to be Burnt and Consumed by Fire, but by a ^{violent} ~~Substanceless~~ motion. An other Opinion is, that all the Universe is made or caused by Whirlpools and Circular motions, which is a Giddy and Dissie Opinion, insomuch, as it Disorders all Human sense and reason.

These Odd Fantastical Opinions, may get Fame sooner than meet with Truth, for Truth, at least the Probability of Truth, Liveth in Sense and Reason, and not in Irregular Phancies. But there are so many of them, that to mention all, I had need to Write another Book, which I will not take the Pains to do. Only this I observe,

To the Reader.

serve, that to Strengthen their Opinions, they are Forced to Steal from each Other, and all the Latter Writers from the Former, only with some little Alterations or Additions. Also I observe, that our Modern Writers in Philosophy, rather Argue like Scholars than Natural Philosophers, rather according to the Arts of Men, than to the Works of Nature, Leaving the Prime Causes, and Hunting after the Effects, which Effects cannot be thoroughly Known without the Knowledge of their Cause, and though the Cause cannot be thoroughly Known, yet it may by much Contemplation and Observation be found out Better than it is, at least some Probability thereof.

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P R E F A C E

Concerning the Rules of Art, and
Explaining the Nature of Infinite, together
with some other Terms, for the better
Understanding of this Philo-
sophical Work.

TH E Rules of Art cannot be the
Rules of Nature, nor the Measures
of Art the Measures of Nature,
neither can the Numbers of Art be
the Numbers of Nature, for though
Art proceeds from Nature, yet Nature doth not
proceed from Art, for the Cause cannot proceed
from the Effect, although the Effect proceeds
from the Cause, neither can Art the Effect of
Nature comprehend Nature, for Nature is so
far beyond or above Art, as Art is Lost and
Confounded in the Search of Nature, for Na-
ture being Infinite, and Art Finite, they cannot
Equalize each other; and this is the Cause, that
School-men, who are the Masters of Art, Con-
found themselves, and all Profitable Studies with

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P R E F A C E.

Logistical Arts, their Artificial Arguments being as Clouds which Obscure the Natural Light of Information or Observation, for there is as much Difference between Logistical Arguments, and Natural Observations, as between Light and Darkness, and the best Natural Philosophers are those, that have the Clearest Natural Observation, and the Least Artificial Learning; but Scholars are so in Love with Art, that they Despise or at least Neglect Nature, and in that Opinion Rail, or at least find Faults, as are not truly to be Found, with those, that are Truly, Purely, and Rightly Natural Philosophers; But I Fear, saying thus much, will beget my Writings many Enemies, for they will say, that I having not the Names and Terms of Art, Speak and Write Non-sense, although the Ground of my Philosophy is Sense and Reason, Life and Knowledge; But Worthy Scholars, say what you Please, it will not Trouble my Sense or Reason, Body or Soul.

I have for the better Understanding of this my Philosophical Work, thought fit to Explane some Words used therein; and therefore when I speak of Infinite matter, I mean Infinite in Quantity, Bulk, Space, Place, Continuance, as also Parts and Whole, but Individable from each other, also all Positives, Negatives, and Potentials, inherent in the Only Substance. But there may be Objected, as that to School Disputations, there can be no such thing in Nature, as Infinite quantity, by reason all Quantity hath Parts, for Quantity

P R E F A C E.

tity is that, whereby all things become Measur-
 able, for every thing is Measured by its Parts ;
 I answer, that Infinite is neither to be Number'd
 nor Measur'd, neither to be Added nor Dimi-
 nished, so that no perfect Division can be made in
 Infinite matter, as to Divide one part from the
 rest, for though Parts may be made as Folds, or
 into Figures, and these to Remove from place to
 place, and Parts to or from Parts, yet they can-
 not be Divided from the Whole, as to become each
 a Single part of it Self, but they remain still
 Parts, pertaining to the Only matter, for though
 there may be Infinite parts of Infinite matter, yet
 not Infinite Single parts, but Infinite Inherent
 parts ; neither can any Part be Measured as a
 Single part, but as a Part of the Infinite matter,
 so that not any Part can be absolute or freely
 Bounded or Limited, but it must have some Re-
 ference to the Infinite matter. Also some Scho-
 lars will say, there cannot be Several Infinites,
 because one Infinite would Possess all Place ima-
 ginable, and so one Part would not Leave room
 for the next ; but it may be answered, that Infi-
 nite matter carries Place with it ; also some Scho-
 lars will say, that one Infinite cannot be in another
 Infinite ; it may be answer'd, as well as one Crea-
 ture Lieth in another ; as for Example, how
 many Several Creatures Live in the World ? it
 will be said, they are Part of the World, and so
 are all Parts Inherent in the Only matter, being
 but as One : But to Sense and Reason, there is
 no such thing as Number and Quantity in the In-
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finite Body or Parts, for Number and Quantity is only Change of Motion and Figures; neither is there such thing as Time in Eternity, but only what Change of Motion makes; nor any such thing as Diversity in Infinite, for Diversity is only Change of Motion and Alteration of Figures; neither is there any such thing as several Kinds or Sorts of Creatures or Substances in Infinite matter, for several Kinds, Sorts and Particulars are but Changing or Forming of Matter into several Figures by Change of Motion; Neither is there Sympathy or Antipathy, but by Change of Motion, for Forming of Matter into Figures, and Changing of Motion in Matter, doth neither Disturb nor Obstruct, nor Alter the Nature of Infinite matter, for the Nature and Entity of Infinite matter cannot be Altered as being Finite, that is, Simple, Uniform, and Intire in it Self; neither can the Body of Infinite matter be Diminished or Increased, being all it Self, but those Figures which Motion makes of the Only matter are the several Parts, and the Motions are the several Actions of Only matter, and Body and Parts are Inseparable, for whatsoever hath a Body, hath Parts, and whatsoever hath Parts hath a Body, and if that Body be Infinite, the Inherent parts must also be Infinite; but mistake me not, for though I say, Body and Parts are inseparable, yet Self-motion can Form and Figure those Infinite parts of the Infinite body, Infinite several Ways, Fashions and Forms, for the Inseparability hinders not the Inherent motion from Figuring
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and Dissolving of Figures. Also there can be no Being without a Body, nor no Body without a Being; Also Animate matter and motion are Inseparable, for the Motion can no more quit the Matter, than the Matter can quit the Motion; Also one and the same Animate matter may Move in Different Modes or Manners of ways, but not Transfer its Motion; Also one and the same Motion cannot go out of one Substance into another, but the Motion and Substance must Transfer or Incorporate together; Also Animate matter moves in Inanimate matter, but cannot give that matter Animate Motion; Also one Moved or Moving Substance may Alter the Motions in another Moved or Moving Matter, but not Transfer Motion; Also one Body may Impower another Body, so as to Hinder it from such or such a manner of Moving, or to Cause another Body to Move so or so, either Exteriously or Interiously, and several Bodies may Strive to Overpower each Bodies Strength, or may Indeaour to Alter each Bodies Figure or Form, but yet it cannot Impart each Bodies Motions without Imparting the Substance, wherein the Motion Inheres, that is, that Animate cannot Impart its Inherent Motion without the Matter, but Matter and Motion being Inseparable, they must necessarily Continue together, for when as several Parts of Animate matter, and several Motions in that matter Intermix, they do not Impart each others Motions into each others Parts, but those Parts and Inherent motions Mix and Work together, those

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those Parts may Help each other, or Oppose each other, or Alter each others Motions, but not Quit their Inherent motions. Another thing is to be observed, that although all Matter is Moving, or Moved, yet all Matter is not Moving or Moved after one and the same Way or Manner, for Motion Alters in the Matter, although it cannot be Annihilated, neither can New motions be made, no more than New matter, for all Sorts of Motions are as Old as the Matter, yet the Matter may Move after Different manners of ways; as for Example, some Parts of the Matter may move sometimes Dilatingly, at other times Contractingly, yet is not the Dilation Annihilated, although the Matter doth not use that Motion, for the Dilating motion is in the Power of the Matter, although not in the present Action, for the Matter cannot Loose any of the Motions that are Inherent to it, but yet the Motions may Alter in the Matter, and sometimes may use Less force, but not Lose force. Also Body and Place are Inseparable, for whatsoever hath a Body hath Place, and there cannot be a Place without a Body. Also Infinite and Eternal are Inseparable, for whatsoever is Infinite is Eternal, and whatsoever is Eternal is Infinite. Also there cannot be Subtraction or Addition from or to Infinite, for Infinite doth not admit of Subtraction or Addition, the Body and Parts being Inseparable; Also Division and Composition are Inseparable, for whatsoever is Composed may be Divided; also Motion, Division and Composition are Inseparable, for not
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any Division or Composition can be made without Motion ; also the Nature of Infinite matter, and the Body of Infinite matter, are Inseparable ; also Motion and Infinite is Inseparable, for whatsoever is Infinite, is either Moving or Moved, or both.

In short : My meaning of Infinite is Philosophical, not Rhetorical ; my Meaning of Parts is, that they are Several Changes, and not Perfect Divisions ; my meaning of Several Infinites is, that they are Several Actions, and not Several Substances ; my meaning of Only matter is, the Infinite matter in Nature, as it is Matter, that is Considered in it Self, called Only matter, to Exclude all other Matter whatsoever. My meaning of Animate matter is, the Purest Degree of Infinite matter, called so, because it hath Self-motion within it, which is as it were the Life and Soul, that Enliveneth it. Whereas on the contrary, by Inanimate matter, I understand, that Grosser part of Matter, which is Destitute of all Motion, and as it were Dead, yet apt to receive Life and Motion from the Animate matter that Works upon it. And since the Animate matter is of two Degrees, Sensitive and Rational, I call the Sensitive the Life, and the Rational the Soul, this the Designer, and that the Worker, which Sensitive and Rational matter Is and Works in all Kind of Creatures the Same, yet Different ways, according to their Different Shapes, Figures, and Interior nature, so that this Sensitive
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and Rational matter Is and Works in Animals, in an Animal way, in Vegetables, in a Vegetable way, in Minerals, in a Mineral way, in Elements, in an Elemental way, that is, in a Way, as aforesaid, Proper to their Figure, Shape, and Interior nature; for such and such a Matter or Substance, Moved by such and such Inherent motions, Produces such and such Creatures, Qualities and Effects; and as *Animate* matter is the Worker and Designer of all Figures, so it is their Maintainer and Dissolver. Also when I mention Cold or Hot motions, or the like, I do not mean Motion without Matter, but such Motions, that Work in such Matter, as to make such Effects. Also my meaning of the Sensitive matter, is not the Particular Sensitive Organs of Animals, but the General Sensitive Substance in Nature, which is the General Life in Nature; and when I say the Unanimate matter, I do not mean that Matter, that is not Subject to Animal senses, but that which hath not Animate motion. By Animate motion, I understand the Intern and Essential motion, properly Inherent in the Nature and Substance of the Animate matter. By Change of Motion, I do not understand Change of Matter, but Change of Motion in one and the same Part of Matter, neither can Motion go out of one Part of Matter into another Part of Matter, without Matter, for Motion cannot Quit the Matter, it is Inherent in; but the Matter can Alter and Change the Inherent motion after several

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several *Ways* or *Modes*, and the several *Inherent* motions in several *Parts* of *Animate* matter, may *Oppose*, *Obstruct*, or *Disturb* each *Part* and *Party*, but not *Quit* or *Leave* their *Parts*, they are *Inherent* in. The word *Gross*, when I use it, is to be *Understood* two *Ways*, first in *Quantity*, and then in *Quality*, as a *Gross Substance*, and a *Gross Bulk*. My meaning of *Composition* and *Division* is, that they are only *Changes* of *Motion* and *Figures*, and therefore *Addition* or *Diminution* cannot be. My meaning of *Quantity* is, that it is *Substance* and not *Measure*; my meaning of *Outward Finites* is, the *Outward* form or *bare Figure*, not the *Substance*, but the *Single Figures* of *Infinite Substance*; my meaning of the word *World*, when I attribute it to *Air*, *Fire*, *Water* and *Earth*, is, that I *Understand* by it an *Aggregate* of the same *Substance* without *Mixture* of any other. But my meaning is not to *Write* a *Book* of *Disputations*, as of *Infinite* and no *Infinite*, of *Matter* and no *Matter*, of *Soul* and no *Soul*, of *Body* and no *Body*, and of *One*, *Two* or *Three*, &c. as *Scholars* do in *Schools*, for *One*, *Two* or *Three*, or all the *Numbers* in *Euclid*, or the *Skil* of *Archimedes*, can neither *Number* nor *Measure Infinite*, so that their *Examples* of *One*, *Two* or *Three* will not serve, but *One*, *Two* or *Three Foolish Heads* with their *Sophistical Studies* make more *Noise* to the *Hearing*, than they bring *Proof* to the *Understanding*; the truth is, *Sophists* endeavour to

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Confound Nature with Art, and to Set Rules and Compasses to Infinite, or otherwise to Scrape and Blot out Infinite with their Ignorance or Nonsense; But I desire my Readers, to keep to my Text, which is Sense and Reason, Life and Knowledge, Matter and Motion, which is Infinite.

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Noble Readers,

 *L*though I have Indeavour'd in the Preface to hinder Objections which might be made, by Explaining some Terms which I use in this Work, yet I am Confident there will be more Senseless Objections made against it, than there are Real Faults in it, and this cannot be Avoided, for more Learned Works than mine have not escaped Censures. As for Terms, it cannot be expected but I must sometimes Err in the Proper Expression of them, since I have not Scholastical Learning; but although I may Err in Words, yet I am Confident, I do not Err in Sense and Reason, and dare Avouch to the World, that these my Philosophical Opinions have as much Sense and Reason as any that have been Written, as being Built upon the Ground of Sense and Reason. I have Cleared some Words in the Precedent Preface, according to that Sense I Use them in, but there may be many more, which seem Hard to my Readers, although I hope every one, who hath a Sound Judgement, may easily Understand them. Thus when I speak of the Degrees of Matter, I desire my Noble Readers to know, that I mean Degrees in Quality and Quantity, not in the Substance and Nature of Matter it Self, as which is Simple, and always the Same, and cannot be

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said to have More or Less. Likewise when I discourse of Creation, I do not Understand a Production out of Nothing, but a Production in Nature, as Nature Creates one thing out of another, some may call it Generation; and many the like Words, which if I should endeavour to Explain them all, it would be a great VWork, and not fit for the Preface, which Preface I must desire you, Noble Readers, to Peruse before you begin the VWork it Self. I know very well, that my Opinions cannot be generally Received and Applauded, for as the Old Proverb says, So many Men so many Minds, and it is not likely, that all Men may Agree in one Mind or Judgement, and since, especially in Natural Philosophy, Opinions have Freedome, I hope these my Opinions may also Injoy the same Liberty and Privilege that others have, which without great Injustice no Body can Deny me.

HIS

To the READER.

I Would not have troubled you with another Epistle, but since there is something Left out, which I thought necessary to have been Inserted in this Work;

I must desire your Leave to Inform you of it, and 'tis this: There may be in Nature More Sensitive Passages or Organs, than the Sensitive Organs in Animals, and not only More Sensitive Passages or Organs, but more Various; for though Animals cannot see Outward Objects without an Eye, yet certainly Nature can, and hath made Different Organs in Different Creatures, to present all the Several Objects or Creatures with their Several Effects to the Several Senses of Several Creatures; for it is not probable, that the several Works in Nature can be in Obscurity to most, and only be Divulged to some particular Sorts or Kinds of those Infinite Creatures in Nature, which are the Infinite Parts of Nature, which is in the Infinite Matter of Nature, which cannot be so Obscure, but is some ways or other subject to the Infinite Knowledge in Nature. But some may Object, that I say, that although Infinite matter is but as One Body, as being of One Nature, yet Motion divides that Body into Several parts, and as Parts are Particular, so Knowledge is Particular, for what is one Part is not another Part, no more than one Man is another Man, and the like may be said for Knowledge. I answer, that all this is true, but Several

ral men may be Considered as One Man, and yet those Several men are not that One Man; also there may be Cut or Ingraven in Several Sorts of Substances, and in One and the same, many Several Figures of one Man, yet those Several Figures are not the Man, but so many Pictures of one Man, for Like and the Same is not all one thing; for though Nature may, and can make Infinite Repetitions of One and the same Creature, and make Infinite Creatures to be Like each other, as also to be of One Sort or Kind, yet Nature cannot make one Creature another, for every Part is of it Self, although every Part is of the Whole, and though Parts cannot be Single Parts of themselves, being Individable from the Whole, yet what is one Part is not another Part: So for Sensitive Passages or Organs, as also their Intelligence and Knowledge, for Several Passages or Organs may inform or give Sensitive knowledge Several ways or Manner of ways, and yet it may be the Same Sort or Kind of Knowledge, and represent Several Prints or Pictures of One thing. Also I must inform my Readers, that I have heard some say, Geometry to be the Ground of Natural Philosophy, and not Natural Philosophy the Ground of Geometry; we may as well say, Art produceth Nature, and not Nature Art. But although it is probable, that some of the Opinions of Antient Philosophers in Antient times are Erroneous, yet not all, neither are all Modern Opinions Truths, but truly I believe, there are more Errors in the One, than Truth in the Other.

HIS



PHILOSOPHY.

PART I.

CHAP. I.

Of Only Matter.

THere is no First Matter, if Matter is Infinite; nor is there any such thing as the Whole Matter, that is, as a man should say, All of the Matter, for there is no such thing as All in Infinite; and as there is no First Matter, so it seemeth to Human sense and reason, that there is but One kind of Matter, as that the nature and entity of Matter is one and the same as intire in it self; for Several kinds of Matter would make a Confusion; so that the nature or entity is Finite, although the quantity or degrees be Infinite; and that which proves, there is but One kind of Matter, is the union, conformity and order of and in Infinite Matter, as human sense and reason may perceive in the distinct kinds

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and sorts of Creatures, also the distinct times and seasons, as also the orderly Creations and Dissolutions, and many the like; and if Matter is Infinite, it must consequently be Eternal, for Infinite makes Eternal, and Eternal Infinite.

CHAP. II.

Of the several Degrees of Only Matter.

AS I said in my first Chapter, there is but One kind of Matter, yet there seemeth to human sense and reason to be several Degrees in that One kind of Matter; the prime degree in Only matter is, that the Only matter is partly Animate, and partly not Animate; also it seemeth to human sense and reason, that there be two degrees of Animate matter, as the Sensitive animate matter, and the Rational animate matter; also to human sense and reason there seem to be Degrees in that part of Only matter which is Unanimate, as dense and rare, soft and hard, heavy and light, but whether the degrees of Unanimate matter be made by the Motions of Animate matter, or be so in their own Nature, I will leave for Wise men to judge; but howsoever, these several degrees alter not the nature and entity of Only matter, but if part of Only matter were not Animate, there would be no Motion, and if there were no Unanimate matter, there would be no Gross Substance, and if there were no Degrees in Only matter, there would

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would be no Change or Entercourse in Only matter, or in the Nature of Only matter; But to conclude this Chapter, the Animate part of Only matter is the Life and Soul of Only matter, and the Unanimate part of Only matter is that part of Matter, as is the Body of Only matter; thus there is an infinite Life, Soul and Body, in Infinite Matter.

C H A P. III.

Of the Degrees of that part of Matter as is Animate.

THe Animate part of Only matter seemeth to human sense and reason to be of two Degrees, as the one degree to be agiler, freer, and purer than the other, which degree is the Radical or Rational part of Only matter; the other part, which is not so pure, free, or agil, is the Vital or Sensitive part; this Vital or Sensitive part or degree is the architectonical part of Infinite matter, to fit and form the Unanimate part of Matter into Figures; the other part of Animate matter, which is the Radical or Rational, is so pure and free, as it cannot be so painfull a Labourer as to work on the gross Unanimate matter, but moveth in numbers, measures, and figures in its own degree of matter; But although every part or degree in Only matter is Infinite, yet the Animate part cannot be so

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Gross and Infinite as the Unanimate part of Matter surely is.

CHAP. IV.

Of the Intermixing of every degree of Infinite and Only Matter.

AS the Sensitive or Vital Animate part of Only matter liveth in the Unanimate part of Only matter, so the Rational or Radical part of Animate matter liveth in the Sensitive part of Animate matter, so that all degrees of Only and Infinite matter are Intermixed; for to human sense and reason it is not probable, that the Infinite degrees of Infinite matter should subsist in several parts; the truth is, it is impossible, being all Infinite.

CHAP. V.

Of Motion.

AS there is but One only Matter, so there is but One only Motion, which is the Only moving part of Only matter; but as there are several degrees and several parts in Only matter, so there are several degrees and several changes in Only motion; but to conclude this short Chapter, there is not any part or degree in Only and Infinite Matter, but is either moving,

ving, or moved by the mover, which is the Innate Motion in Animate Matter.

CHAP. VI.

Of Vacuum.

TO treat of Vacuum, whether there be any or not, is very Difficult, for there is as much to be said of one side as of the other; for if there be no Vacuum, all the matter would be Dense as Glass, and so there could be no Agil Motion; but if a Vacuum be allow'd, how can a Place be and no Matter, for nothing is nothing; Wherefore, human sense and reason informs, that Matter and Motion doth create Place and Space in it self, as it doth in all Figures, and Divisions, in the Infinite Body.

CHAP. VII.

Infinite Matter cannot have an Exact figure or form.

THe Infinite and Only matter cannot have an Exact form or figure, by reason it is Infinite; but the Infinite matter being divided by self-motion into Creatures or Parts, these Creatures or Parts may have exact figures according to their proprieties; yet those Figures or Parts are as Infinite as Infinite matter, of which they were made; neither can those Creatures, Figures or Parts be taken from the Infinite Body;
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for though Parts may be divided, and composed Infinite, several wayes, or manners, or fashions, in the Infinite Body, yet Infinite can neither be increased nor diminished; for though the several Changes of Motions, which are the several Actions; and the several Figures, which are the several Parts of the Only matter, be all Infinite, yet those Infinites are but as one Infinite, being inherent in the Only Infinite matter, and being not divided from the Only Infinite matter, for the several Infinites conclude in one Infinite.

CHAP. VIII.

*Of the Degrees, Changes, Parts, Divisions
and Compositions in Infinite Matter.*

ALthough in Nature there is but One kind of matter, yet there are Infinite Degrees, and Infinite Motions, and Infinite Parts in that Only matter; and though Infinite and Eternal matter hath no perfect Figure, yet there being Infinite parts made by Infinite motions in Infinite matter, these Parts have perfect Figures; and if there be Infinite degrees, motions, parts, divisions, compositions, and changes, then there are Infinite figures; if Infinite figures, Infinite sizes; if Infinite sizes, Infinite smallness, Infinite bigness, Infinite lightness, Infinite weightiness, Infinite rarity, Infinite density; and if Infinite degrees of Motion, then there be Infinite degrees

degrees of Strengths, and if Infinite degrees of Strengths, then Infinite degrees of Power, and if Infinite degrees of Animate Matter, then there are Infinite degrees of Life, and Infinite degrees of Knowledge; but yet in Infinite, there is no such thing as Biggest, or Smallest, or Lightest, or Heaviest, or Softest, or Hardest, or Quickest, or Slowest, or Strongest, or Weakest, or least Knowing, or most Knowing, for there is no such thing as most and least in Infinite, nor no such thing as Time in Eternity, yet there is such a thing as Time made by Motion, for Time is only the Variation of Motion. But to conclude this Chapter, all those several Infinites conclude in One Infinite, like as several Letters conclude in one Word, several Words in one Line, several Lines in one Speech, and these several Letters, several Words, several Lines in one Chapter, so several Parts, several Figures, several Motions in one Matter, and several Infinites in one Infinite Body.

CHAP. IX.

Of the Grounds or Principles of Only Matter.

ALthough there is Infinite Matter in Infinite Degrees, Infinite Motions, Infinite Parts, Infinite Divisions, Infinite Compositions, and Infinite Figures and Creatures, yet there seem to be but few Principles or Grounds: As
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for Matter, its Ground and Principle is but Quality and Quantity, which Quantity is not to be circumferenced, nor Quality throughly to be known; As for the Infinite Degrees of Matter, there be but two which are Principal, as, Animate and Unanimate, and the Degrees of the Animate are but Sensitive and Rational, and the Degrees of Unanimate Matter is but Dense, Rare, Light and Heavy; As for Infinite Motions, they may be reduced to six Principal sorts, as, Attraction, Contraction, Retention, Digestion, Dilatation, and Expulsion; The Ground of Infinite Divisions is but Number, the Ground of Infinite Compositions is but Symetry, the Ground of Infinite Figure is but Depth, Length, Breadth, Flatness, Highness, Lowness, Roundness, Squareness, Triangularity, and Parallelism; And the differences of Infinite Creatures, are but Animal, Vegetable, Mineral, and Elemental; And as in Nature, so in Arts, as all Musick is from eight Notes, all Language from four and twenty Letters, all Numbers from the Figure of Nine and a Cypher. But, as I said before, that the Quantity and Quality of Infinite matter cannot possibly be circumferenc'd, nor throughly known, yet Human sense and reason may more probably guess or conceive the Prime Causes, than the Infinite Effects. But, to conclude, human sense and reason perceiveth, that from Few, indeed, but from One Principle, (as the Only matter) Infinite Effects do proceed.

CHAP. X.

Of Varieties.

ALL Variety is made out of the several Degrees of matter, and several Changes of motion, which makes several shapes of Figures or Creatures; and yet the several Degrees, several Changes, and several shapes or Figures, do make an Equality in Infinite matter, which causeth a Sympathy and Order in Productions or Creations, as also Flourishes and Decays, as, Infancy, Youth, Age, Life, Death, Times, Seasons; as also the distinct Kinds and Sorts of Creatures, as also Qualities and Proprieties of all kinds and sorts of Creatures.

CHAP. XI.

Of the Equality of several Degrees and Changes of Infinite Matter and Motion.

THe Only matter being Infinite, the several Degrees of matter, and several Changes of motions must also be Infinite; for the Infinite of the Severals is the Infinite of the Whole; I say, Whole, for distinctions sake; yet there is an Union and Equality in the Infinite of each Degree of matter, and Change of motion: For as there is Infinite Unanimate matter, so there is Infinite Animate matter to make an Equality; and as
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there are infinite Densities, so there are infinite Rarities ; and as there are infinite Lightnesses, there are infinite Weightinesses, to make an infinite Equality, in infinite Nature. As for the Changes of Motion, as there are infinite Attractions, so infinite Dilatations ; and as there are infinite Retentions, so infinite Digestions ; and as there are infinite Contractions, so infinite Expulsions to make an Equality in infinite Matter ; and as there are infinite Divisions made by infinite Motion in infinite Matter, so there are infinite Compositions made by infinite Motion in infinite Matter to make an Equality ; and as there are infinite Creations, so there are infinite Dissolutions ; and as there are infinite Figures, so there is infinite Matter ; and as there is infinite Life, so infinite Knowledge, all which makes an infinite Equality in infinite Matter, which is infinite Nature.

CHAP. XII.

Motion causeth Disturbance, but the Nature of Only Matter keepeth Peace.

MOtion, the Creator of Figures, doth make Warr, and oftentimes opposeth it self in several Figures or Creatures, which Self-motion Creates ; for though the Infinite and Eternal matter is Eternally in Peace, not being subject to Change, yet Motion and Figure being subject to Change, strives for Superiority, which

which Superiority cannot be in Infinite, which causeth an Eternal Warr, or at least Disputes ; but Motion, the Active part of Infinite matter, would cause Confusion, being in its nature restless ; but the Only matter, being Intire in its own nature, also Infinite and Eternal, is the cause that Confusions cannot be ; for though the several changes of Motion, and different Shapes or Figures of several Creatures, strive to make Disturbance and Discord, yet the Matter being One in it self, makes Peace and Concord in Infinite, and Infinite in the Matter ; in truth, the Unity of the nature of Only and Infinite matter, maketh Concord out of Discord, so as the Cause ordereth the Effects, for the Effects cannot alter the Causes, for though the Effects make Disturbance, the Causes make Peace.

CHAP. XIII.

Of the Knowledge and Power of Infinite Matter.

THe Infinite and Only matter cannot possibly Know it Self, because it is Infinite, and therefore cannot have a Finite Knowledge, either in the Causes or Effects ; and as Infinite matter cannot possibly have a Finite Knowledge, so it cannot possibly have an Absolute Power, having an Infinite Power, for the Infiniteness hinders the Absoluteness ; neither hath Infinite matter a

Free will, for not any Change or Alteration can be made in Infinite and Eternal matter, for what was, is, and shall be ; but could there be any Alteration in Infinite matter, there might be a Confusion, but by reason there cannot be an Alteration in Infinite and Eternal, there cannot possibly be a Confusion.

CHAP. XIV.

There is not a Judge in Infinite Matter.

THERE can be no Complaints presented to Infinite, no Intreaties or Petitions can persuade Infinite matter, or Bribe or Corrupt it ; there can be no Appeals heard, or Causes determined ; for Infinite cannot Judge, nor be Judged, nor be Prescribed, Setled, Ruled, or be Disposed of ; neither can Infinite have an Absolute Power, for Absolute is Finite ; neither can there be Perfection in Infinite, for Perfection hath a Circumference ; for though there is an Union in the nature of Infinite matter, yet there cannot be an Union in the Infiniteness.

CHAP. XV.

Of Life, Knowledge, and Matter.

VW^HATsoever hath Animate Matter and Motion, hath Life and Knowledge, and if all the Inanimate matter is mixed with the

the Animate matter, then the Only and Infinite matter is Living and Knowing; but according to several Animate motions, there are several Lives, and several Knowledges, for Life and Knowledge liveth in Animate matter and motion, for Motion liveth in Matter; for though the Nature or Entity of Infinite matter never altereth, yet the manner of Motions altereth, and changeth in that matter; and as Motion altereth and changeth, so Life and Knowledge differeth, as also Figures or Shapes of several Creatures; for as there are different Motions in different Creations, so different Motions in different Creatures; for Matter, Life, and Knowledge, is divided into Figures by the Animate matters Motions; for though there is a general mixture of Animate and Inanimate matter, yet there is neither a general Life, nor a general Knowledge, which I shall treat more fully of.

CHAP. XVI.

Of Life and Knowledge.

Life is that part or degree of Animate matter, which I name the Sensitive, and Knowledge is that part or degree of Animate matter, which I name the Rational; The Sensitive part of Animate matter worketh only on the Inanimate part of matter, Creating Infinite Figures or Creatures of the Infinite Inanimate part of matter;

ter ; This Sensitive Creating matter is a Rare, Acute matter , which Rarity and Acuteness causeth it to have a Subtil, Agil, Peircing, Dividing propriety or faculty , by which Power it worketh and formeth the Inanimate part or degree into particular Figures or Creatures of different kinds or sorts, according to the severall degrees of the Inanimate matter ; As for that part or degree of Animate matter, which I name the Rational Animate matter , 'tis a degree Purer and so Agiler than the Sensitive Animate matter, it is the Infinite Mind or Soul of Infinite matter , as the Sensitive is the Infinite Life of Infinite matter ; but this Rational matter or substance is so pure and fine , as it cannot work on the Inanimate part of matter, being too Gross a Substance , but only moveth in Figures and Motions of its Own Substance in the Sensitive part of matter, which Sensitive part or degree moveth in the Inanimate part or degree of Infinite matter , so as the Inanimate, and the Sensitive, and Rational parts or degrees are a prime triumvirate of the prime degrees of the Only and Infinite matter, living, mixing, and moving together, as the Body, Life, and Soul.

CHAP. XVII.

Of the Sensitive and Rational Animate Matter.

VVhatsoever hath Motion, hath Animate Matter, and what thing or part of the World is there that we are capable to know, that is not Moving or Moved? so that all Matter is Moving, or Moved by the mover, which is the Animate part of Only and Infinite matter; if so, all things have Sense, by reason all things have Animate matter, and if all things or Creatures have Sensitive Animate matter, why not Rational Animate matter? for there is Infinite of every several sort of Only matter, as being no Limit of Infinite; if so, why may not Vegetables, Minerals, and Elements, have as much Animate matter, both Sensitive and Rational, as Animals? which is, to have a Sensitive Life, and Rational Knowledge, only they want the Animal shape or Figure, and such sorts of Motions as are proper to the Animal Creature, to express their Sense and Knowledge in an Animal way; for had Vegetables, Minerals, and Elements, the same Shape created by the Creator, which is the Animate matter and motion, there might be Vegetable, Mineral, and Elemental Men, Beasts, Fowls, and Fish, as also there might be Animal Vegetables, Minerals, and Elements. Wherefore, I cannot perceive

perceive in sense and reason, but there may be as many Several and Various Motions, and as much Vital or Sensitive Life, and as much Rational Knowledge in Vegetables, Minerals, and Elements, as in Animals, being all Created by Animate matter and motion, which is a Self-moving matter, only they want the Animal shape and motions to express the Animal way; but if their Sense and Knowledge be not the same Knowledge and Sense as in Animals, but different Sense and Knowledge, by reason of their different Shapes or Figures, yet it is Sense and Knowledge; for shall we say, or can we think, that a man doth not know, because he knoweth not what an other man knoweth? shall we say, not any Creature but Animals, have Sense and Knowledge, because we know not what other Creatures know? but to draw towards an end of this Chapter, human sense and reason doth inform us, that all Creatures are Created by Animate matter, and Indued with Animate matter, which is Life and Knowledge, but yet it is not possible for Vegetables, Minerals, or Elements, to have either the same Life or Knowledge as Animals, or Animals to have the same Life or Knowledge as Vegetables, Minerals, or Elements, because the motions and degrees of Temperaments, as also their Creations, Consistence, their Proprieties and Faculties are different, otherwise Infinite matter would be as one Figure, and no Variety, or else would be in a Confusion, without Distinction.

CHAP.

CHAP. XVIII.

Of Creations.

THat Animate Part or Degree of matter, which is Life, is the Creator of all Figures or Creatures, which are Created of Inanimate matter; 'tis also a Dissolver of Figures or Creatures: for this Self-moving matter is never at rest, for Rest is against the nature of Animate and Self-moving matter, that is the reason that when a Creature is made, it is Dissolved again, and formed into a New Figure, only some are sooner Created, and sooner Dissolved again than others, according to the Agility of the Animate matter, or according to the Temper or Degrees of Inanimate matter, or according to the Shapes or Proportions or Creations of Figures; As for the Ground or Principal Motions, as I have formerly declared, they are six, as Attraction, Contraction, Retention, Digestion, Dilatation, and Expulsion; Attraction draweth Parts, Contraction knitteth Parts, Retention fixeth Parts, Digestion fitteth and disposeth Parts properly, Dilatation enlargeth Parts, Expulsion disperseth Parts; but though there are but six Ground or Principal motions, yet there are Infinite Changes, and Several Motions produced from these six; the like for Rules, Numbers, Measures, and Figures, as from the Ground and Principal, Infinite are produced, as from one kind of Mat-

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ter Infinite Degrees, from one Motion Infinite Changes, from Matter and Motion Infinite Figures or Creatures ; but the Sensitive Animate part of matter worketh or createth according to the Temper or Degrees of the Inanimate matter, for in Spongy, Porous, and Light degrees of Inanimate matter, the Sensitive Animate matter Createth and Dissolveth sooner or faster those Figures or Creatures made therewith, than in that Inanimate degree of matter, which is Dense, or Heavy, or Hard ; This is the reason that Minerals are a longer time ere they be finished or dissolved than Vegetables, Animals, or Elements, because in reason that Degree of matter that is in Minerals, is more Dense and Hard, than that which is in Vegetables, Animals, or Elements ; for it is probable, that the Sensitive Animate matter worketh in Change of motions, according to the Temper or Degree of the matter it worketh or moveth on and in, for several Degrees of Inanimate matter, require several Changes of motions ; but I desire my Readers not to mistake me, when I say some Creatures are longer or sooner Created or Dissolved, according to the Temper or Degree of Inanimate matter, for I mean longer or sooner according to the Nature of each Degree, and not to the outward Form or figure, for Metal may soon be melted, but not so soon changed in its Nature from being Metal, and so the like of all Creatures in nature ; But to explain my sense and reason to my Readers, as plainly as I can, I will

will assimilate the divers Changes of Sensitive motions in the Inanimate matter to several Work-men, being alwayes busily imployed, as in Removing, Lifting, Carrying, Driving, Drawing, Placing, Digging, Cutting, Carving, Forming, Fixing, Measuring, and millions the like, working and moving according to the Temper or Degree of Inanimate matter; as some Sorts of motions, and some Degrees of matter make the Roots, others the Pith, others the Bark, others the Leaves, others the Fruits, and so the like in all manner of Vegetables; as also some Sorts or Degrees of matter and motions proper thereto make Sinews, some Bones, some Marrow, some Flesh, some Veins, some Blood, some Brain, some Humours, some Senses, some Appetites, and the like, of whatsoever belongeth to Animals; and some Sorts or Degrees of matter and motion make, some Tin, some Lead, some Silver, and some Gold, some Marble, some Diamonds, some Pibble-stones, and so whatsoever belongeth to Minerals; also some Sorts and Degrees of matter and motions make, some Earth, some Water, some Air, some Vapour, some Fire, or whatsoever belongeth to the Elements; but there are so many Several sorts of Creatures in every Different kind, as I am not able to express the particular Degrees, and several Changes of matter and motion in every Particular Creature, and every Particular part in every Particular Creature.

CHAP. XIX.

Of Productions.

THe prime Ground or Principle in Creation is Production, and the reason that all Creatures or Figures are made by Production, is, that the Only matter is Infinite, and being Infinite, all Degrees and Motions in the Only matter are also Infinite, which causeth a necessity for one Creature to be produced from another, so that the Dissolving of one or more Creatures or Figures is the way of the Creation of one or more Creatures or Figures, and must of necessity be so, for there is no New matter in Infinite, nor no New nature in the Only and Infinite matter, for change of Motion, and change of Figures, is in one and the same Matter, and in one and the same nature of the Only matter, so that the Degrees, Motions, and Figures, being but Parts of the Only and Infinite matter, cannot be Divided or be taken from the Only and Infinite matter, being produced by and in the Only and Infinite matter, which Only and Infinite matter is as Old as Eternity, which hath neither Beginning nor Ending.

CHAP. XX.

Of the Producer, and the Produced.

AS I said in my former Chapter, that all Creatures or Figures are Created by the way of Production, yet some Creatures or Figures are produced by more or fewer Producers, nor all Creatures are not produced after one and the same way of Production, but some one way, and some other wayes, yet every Produced partaketh of, or from their Producers, otherwise there could be no Produced; and not only of the Producers Producing Motions, but Producing Substance, according to the propriety of the Kind or Sort of Creature; for it is not as some imagine to be, as only by such Motions made between the Producer, that Createth the Produced, but it is part of the Substance of such Degrees or Tempers of matter that Incorporateth, that causeth the Forming or Creating of the Produced; but some Producers contribute only to the first Foundation of the Creature, and other Producers to the Nourishment, others to the Consistence and Perfection, and others to the Use of the Produced, but the prime Producing Creator of the Produced Creature, is the first Beginner and Founder.

CHAP. XXI.

That the Produced partakes of the Producer.

ALL Produced Creatures partake of their prime Producers, of each part more or less, not only in Effect, but of Substance; and the proof of this is, that such a Creature or Creatures could not be Created but by the same Creators, otherwise the same Motions made by such Kind, Sort, or Degree of matter, would produce the same Creature, but that cannot be, for the same Kind of matter, both Inanimate and Animate, hath the same Degrees and Changes of Motion in general, but not in every particular Part, or particular Figure, but every particular Part is as it were by and of it Self, for what is one Part, is not an other Part; as for Example, there are two Rare Parts, and though they be both Rare, yet they are two Parts; so there be two Contracting Motions, and although they be both Contracting Motions, yet they are two Contracting Motions; for as several Motions make several Figures, and so several Parts, so several Parts make several Motions; thus there is Division in one and the same Kind, and one and the same Propriety, or Quality, or Nature; but as I said, the Produced partakes of the Producer, for particulars Produced could not be Produced but by such particular Producers.

CHAP. XXII.

Of the several Creating Motions and Matter.

THe same Matter or Figure of Producers doth not alwayes move after one and the same manner in Producing, for then the same Producers would produce one and the same Creature by repetition, and then there would be no Difference of Figures or Creatures, but all that was Produced from such Producers would be all alike as one; but the Various Changes of Motion, in one and the same matter, cause a Difference in the Produced, as in Semblance, Constitution, Humours, Dispositions, Qualities, Faculties, Proprieties, and the like; for though the Producers be the Same, and not only the Produced of the same Kind or Sort, but of the same Nature, as coming from such Producers, yet the Produced are not alwayes alike, but some Vary more than others; 'tis true, some are so alike, as not to distinguish them, but that is so seldome, as it is a wonder, yet they are two several Creatures.

CHAP.

CHAP. XXIII.

The Sensitive Animate Matter causeth the Inanimate Matter to help in Creations.

THe Animate part of Matter doth not only move and work in the Inanimate part of Matter, in Creating of Figures of that part, but causeth that part as the Inanimate part to help in the Creation ; for though the Inanimate part of Matter is not moving, yet it is moved by the Animate part, but it moveth as the Instrument, not as the Worker, and is as the Art, not as the Nature, for the Animate matter worketh by and in its Own Power, but the Inanimate matter worketh by the Power of the Animate; and there are different Creations, for all Arts are Creations, as Building, Carving, Painting, Framing, Forming, and whatsoever is made by Men, or any other Creature, is Creation, or whatsoever they Undoe or Unmake is Diffolution, but all Arts are made by the Animate Matter and Motion, although not the same manner or way as that we name Natural Creation or Production, yet that way as we name an Artificial Creation; but Creations are so Various in Infinite Figures or Creatures, as even in one and the same kind, as in Animal kind, Creations or Productions are not after one and the same manner of way, for Beasts are Created or Produced after one manner of way, Fowls or Birds after

after an other manner of way , Fish after an other manner of way, Flies and Worms and crawling Creatures after many different manners and wayes ; so for Vegetables, as some by the way of Sowing of Seeds, and some by the way of Planting of Slips, and some by the way of Grafting or Inoculating ; as for the Creating of Minerals, the wayes or manner of wayes are not so perfectly found out by Human sense or reason , for though Human sense and reason may probably guess or imagine the way, yet not perfectly know or understand , although Chymists have studied and practised to understand the way or means , but as yet cannot find it out.

CHAP. XXIV.*Of the Motion of Animate Matter.*

IT is not Motion which is the cause of Animate Matter, but Animate Matter is the cause of Motion , for were there no such Matter, there would not be any Motion, for Motion is but the Effect, not the Cause, either of Sensitive or Rational Animate Matter ; as for the Sensitive Animate matter, as I have said, it moveth and worketh only upon the Inanimate part of matter , but the Rational Animate matter moveth only in it Self, in Number and in Measure, but neither the Sensitive Animate matter, nor Rational Animate matter , moveth alwayes Regularly,

gularly, but many times Irregularly, which causeth Mishapen Figures or Creatures, as Deformed and Monstrous Creatures, and Distempered and Extravagant Senses, and Distempered and Distracted Minds, of which I shall discourse more towards the latter End of my Book.

PRE-



P R E F A C E

To the Second Part.

IN the First Part of my Book, I have treated of the Only and Infinite Matter, the Nature, Degrees, Motions, and Figures, and of Creation or Production in general ; but to treat of every Several kind and sort, and of every Particular Creature in Infinite Matter, would be not only an endless Work, but it is impossible to be done ; Wherefore, I shall choose some Particular Figures to discourse of, and first of that Animal, named Man. In truth, this Creature Man thinks and believes it self to be the supreme Creature of all Creatures in Infinite Matter ; In truth, it believes it self to be above Infinite Matter : but what is above Infinite Matter is above a Finite Opinion, neither belongs it to Natural Philosophy, for Natural Philosophers go and study not beyond Sense and Reason ; and according to the proportion of that Sense and Reason that I have, I shall declare my Philosophical Opinions.



PHILOSOPHY.

PART II.

CHAP. I.

Of Creation, or Production.

ACcording to my former Description of Animate and Inanimate matter, I shall describe the Creation of that Animal named Man; for though I cannot possibly describe every particular Motion in every particular Creature, by reason Motions neither move nor work just alike in every particular Creature, nor in every particular Part in every particular Creature; for if Motions did not Variate in each Creature, and every Part in every Creature, every Creature and Parts of Creatures would be just alike; for though there is a Likeness in every several Kind, and every several Sort of Creatures, yet not so, but that every particular Creature of the same Kind or Sort is Distinguishable; but Animate

mate Motion, the Creator or Producer of particular Creatures, works according to the propriety of Inanimate matter, although Motion doth Temper, Mix, Joyn, Compose, Divide, and Dissolve Infinite Matter into Infinite Parts and Figures; for though Infinite matter is Indivisible in its Nature, yet not in its Substance; for though the Nature of Infinite matter cannot be divided from it self, yet the Substance may be divided in it self by Self-motion into Atoms. But now I am to treat of that Creature, I will not say Atom, although in comparison of Infinite matter Man is but as an Atom; but there are numbers of Various motions that joyn in the Creation or Production of an Animal Creature, especially a Man, for there are innumerable Various motions that joyn in or to the Creation or Production of every particular Part, though never so small in the whole Figure, not only in and to the Production or Creation, but in and to the Consistence and Perfection of every Part, as much as to the Whole; Wherefore, the Animal Figure, especially Man, who is framed of many different Parts, cannot be formed Perfectly, as to have a perfect shape of the whole Figure, as in Nature it should have, in one Instant of time, as some Learned Physicians have written, I will not say, believed, that Man's shape is formed intire at the first Production, but that seems to my Reason to be impossible; for the Varieties of motions in several Mixtures and Temperaments in different Parts proper to a
mans

mans Body, must hinder that sudden Perfection of the Whole Body ; in truth , it is against all Sense and Reason, to believe or imagine, that an Animal is formed in a Perfect shape at one Instant, were it no bigger than a Hair of the Head, unless they think or imagine, an Animal figure is Created as easily as Water is metamorphosed into Snow, Hail, or Ice ; but those Figures or Creatures that have Variety of Parts, must needs have many Changes of Motions, and divers Temperaments of Matter, which will cause Degrees in Creation or Production, which Creating or Producing degrees we name Time ; but according to the nature, form or shape of the Figure or Creature , is the Creation or Production longer or sooner ere the whole Figure is produced or made ; That is the reason that some Creatures are produced, formed, and perfected in a moneth, whereas others are almost a year ere they are perfected ; the truth is, that the Sensitive matter and motion, as also the Inanimate matter , is not readily and properly fitted to Create or Produce a Figure or Creature composed of several and different parts on a sudden , but by degrees of Time and Season, like as an House that is a building, the Materials are brought from Several places , and not only so, but those materials must be Cut, Carved, Fitted, Placed orderly and properly ; so for the Animal House must Materials be brought, as Food, and that Food ordered properly for Nourishment, which is the natural Building, as also

also Repairing ; but as there be Degrees of time, in Creating or Producing a Figure, so there are Degrees of Increasing, Inlarging, and Strengthening every particular Part of a Figure ; but to conclude this Chapter, the first Producer is the first Founder.

CHAP. II.

Of the Quantity of Animate Matter, and Inanimate Matter, in Creations of Men or Animal Kind.

THe reason that the Sensitive Animate matter, when it begins to Create an Animal by the way of Producing, and that the Producer feeleth not, or is not sensible of the Produced, is, that untill such time as the Mould, Print, or Figure of the Produced be fully finished in the Womb, it cannot have the Motion proper to his whole Figure, which is, that the Produced cannot have an Animal Motion untill it be perfectly made an Animal Figure or Creature, and after the frame is Built, and the shape Perfected, then the Produced is Furnished with Strength, and Inlarged with Growth by nourishing Supplies of Sensitive matter ; but in all Creations, there is Rational with Sensitive and Inanimate matter, for though the Rational Animate matter moves not the same way or after the same manner in the other Degrees of matter before the frame of Animal Figure or Creature

ture is Perfected, yet that Matter is there, and surely hath a part in the Creation, although not in the Building or Labouring, yet in the Ordering, Contrivance, and Designing like as Surveyers; but as all Animal Creatures require Time in their Creation, so in their Perfection, which Perfection is to have a perfect Shape, Strength, and Knowledge proper to the Nature or Kind of its Figure, by which we may perceive, it is not only the Motion, but the Quantity of Matter, that brings a Creature to Perfection, that is, a just Proportion of matter proper to the Nature or Size of the Figure; for if Perfection were at the first Instant, and not by Degrees, a Child in the Womb, or at least new Born, would be as Big, Strong, Sensible and Knowing as at Ripe Age; but we may observe, that it is not so amongst the Creatures in this World, especially that Creature named Man, for his Growth, Strength, and Knowledge is Increased by Degrees, for after the Parts and Passages are made, every Degree of matter proper for that Creature is brought to, and carried in by the Matter that is in the Producer, and after it is separated from the Nourishment of the Breeder, it is Perfected by other matter proper for it, from other Creatures, that do contribute to its Perfection; and as other Creatures do contribute to the Perfection of that Creature, so that Creature doth contribute to the Perfection of other Creatures, and must do so upon necessity, since all Matter lies or lives in Figures and
Creatures.

Creatures, as all Figures and Creatures lie or live in Matter; but as Children get Strength by Food, so they get Knowledge by Experience, although there may be a Strong-bodied man a Fool or Mad, and a Weak-bodied man Wise and Sober, which is caused by the Regularity and Irregularity, as also by the Variety, and Swift or free Motions, or the Slowness, or few Changes of the Rational and Sensitive matter and motions; but as all Senses are not fixed or bound to one Organ in a Body, so all Knowledge is not bound or tied to one Sense, no more than all Matter is bound or tied to one Creature; but as the Sensitive Animate matter makes Appetites, so the Rational Animate matter gives directions in the choice of the Food of Appetites, as what is good, or what is bad for the Creature, but many times the Motions of Sense and Appetite are too strong for the Motions of Reason and Wisdom.

CHAP. III.*Of Infancy, Youth, and full Growth.*

THe reason that most Animals, especially Men, are Weak whilst they are very Young, and that Strength increaseth by degrees, is, that they have Little Substance, for both Animate and Inanimate matter increaseth together, and the way of Increasing is by Nourishment, which is received through the several Sensitive Passages,
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through which Passages the Animate matter and motions bring in, and carry forth usefull and unusefull matter ; as for the Sensitive motions, Attractive motions gather and draw Substance proper to the Figure, and for the Figure, Contraction beands and ties all Parts firm to each other, Retention fixes those Parts that are apt to loose or wander out of their proper places, Digestion sorts and fits several Substances to several Places proper to every several Part, Dilatation enlarges every several Part, spreading each several sort of Substance towards a Circumference proper to the nature of the Figure, Expulsive motion carries out all Unusefull, Unprofitable, and Hurtfull matter or substance, which is brought into the Figure, or made in the Figure ; but it is to be understood, that these six prime Motions produce Infinite Changes, as eight Notes in Musick do, or the number of Nine doth Infinite Numbers, and when there is a Harmony in Motion, the Body is Strong, but a Discord in Motion makes the Body Weak, and many times there is more Unusefull matter brought in than Usefull, and then the Body thrives not, that is, it doth not Increase towards Perfection ; also the finishing of the Body is hinder'd by the Irregularity of motion, for the Sensitive Animate matter doth not alwayes and at all times move Regularly, but often times Irregularly, in Miftempering, Misplacing, Cross moving, and the like, which causeth Deformities, Weakness, and Unnatural or Untimely Decays ; but where-
as

as the Sensitive motions are Regular, and work or move Harmoniously, then the Body is Perfect, Strong, Healthfull, and if the several Mixtures and Temperaments be Pure and Fine, the Body is Beautifull, but if the Mixtures and Temperaments are Gross, then the Body is Foul; As for Youth it is, whereas there is a Greater proportion of matter gathered together by the Sensitive motions, Increasing the Bodies Strength, by Increasing the Bodies Quantity, which Increase is, as I have said, brought into the Body through the Sensitive passages or doors, of which I shall more fully discourse afterwards; but if the more Quantity of the proper Substance, and if the Motions be Regular, the Body is Larger and Stronger, this is the reason that Youth is stronger and larger than Infancy, and at full Growth or Perfection than in Youth; by this we may perceive, there requires Time and Season, which is the Variation of Motions, and proper and fit Matter or Substance to Produce, Increase, and bring an Animal Figure or Creature to Perfection or full Growth; but do not mistake me, when I say full Growth and Large, as if not any Animal were Perfect that were not Tall and Big, no, I mean Large, as from the first Degree to the last Degree of their full Growth, for there are different Degrees of Sizes amongst one and the same kind, as Mankind, for a Little man is as Perfect at full Growth as a Great man, a Pygmy as Perfect as a Giant, a Worm as Perfect as an Elephant, a

Flie as Perfect as an Ostridge ; and as for Strength of Body, and Understanding, it is according as the Body is Firm'd, Setled, and Inabled by Contraction, Retention, and Digestion ; and for the Understanding, 'tis according as the Rational Matter moves, and according as the Organs, Passages or Parts of the Body are perfectly made ; this is the reason that some Little men may be Stronger than men of a Greater size, as also a Little man may have more Wit, Knowledge or Understanding than a Greater man, for neither strength of Body nor Mind lie in the Bulk of Inanimate matter, but in the Regularity and Strength of Sensitive and Rational Motions.

C H A P. IV.*Of Decay, or Age.*

WHen as the Sensitive Animate matter and motions have Produced or Created a Figure or Creature, and brought it to Perfection, that is, full Growth, if that Matter and Motion did not Dissolve that Creature again, that Matter and Motion would want Employment, having no work to do, and Idleness, which is Rest, is against the nature of Self-moving matter, for Self-moving matter is a Perpetual Motion ; this is a reason, that as soon as the Body is brought to Perfection, that is, to be fully finished and furnished, the Animate matter
moves

moves to Dissolution, undoing or unmaking what they had made or done, which is the cause of Decays and Infirmities in Age; but sometimes the Retentive motions predominate most or longer than other Motions, which causes a longer continuance of Health and Strength in some Men than in others, and sometimes the Dissolving motions are quicker in some Bodies than in other Bodies, which causeth sooner Decays and Infirmities; but according to the Sensitive motions in Sickness or Health, as also Life or Death.

CHAP. V.

Of Death.

AS Life is Creating Motions, so Death is Dissolving Motions, and when there is a general alteration of such Motions, as are proper to the Consistence of the Creature, it is named Dead, but when the Figure is Dissolved, and that the Sensitive matter and motions disperse, and that Dissolved figures materials go to the Making or Producing other Figures of divers natures, it is named Death, or Transmigration; but this is to be observed amongst Animals, that an Animal is longer a Creating or Making than in Dissolving; the reason is, that there be required different Composing and Agreeing motions, and several Sympathetical Degrees, Mixtures, and Temperaments of Matter or Substance

stance in Creating or Making, whereas Dissolving is only to disperse those Substances or Parts.

CHAP. VI.

*Of Local Motions and Shapes, as also of
several Shapes amongst Animals.*

NOW I have discoursed of the Production or Creation, and the Perfection of the Body of that Animal Creature, named Man, give me leave to discourse of the particular Shape of the Body, which doth somewhat resemble other Animals. First, I will discourse of the Local Motions and Shape; as for Local Motion, it is inherent in all Animate matter, as a Self-moving matter, so that Local Motion is to remove from place to place by Self-motion, and Local Shapes are Animal Shapes, as not being bound, joyned, or tied to any other kind of Creature, either for Support or Nourishment, as Vegetables are, but is free, and loose of it self, and by it self, from all others, and to all others; The Differences of Shapes amongst all Animals, 'tis a greater labour to discourse of, than I am able to perform; but this is to be observed, that some Shapes have power over other Shapes, but it is not occasioned by the Size or Bulk or outward Strength of the Shapes, but occasioned by the Manner or Form of their Shapes, that either causes Advantage or Disadvantage; for a little
Mouse

Mouse will run up and through the Trunk or Snout of a great Elephant, and eat out his Brain and Kill him ; a little Asp will sting a Man to Death, and a little Flie a Horse to Death ; a little Worm will eat through the Vital parts of a large and strong Creature ; Neither doth the force of every particular Animal lie in the Bulk of the Body, but in some particular Part of their Bodies, as the Lions force lies in his Claws, the Bulls in his Horns, the Dogs in his Teeth, and Mans in his Arms or Hands, Birds in their Bills and Talons, and so of all several Animal Shapes, the Strength and Force is in some particular Part ; also the Manner and Form of Animal Shapes gives them several Proprieties, Qualities, or Faculties, according to each Kind or Sorts of Shapes, as the Shape of Birds causes them to Fly, the Shape of Fish causes them to Swim, the Shape of Worms causes them to Creep, the Shape of Beasts causes them to Trot, Amble, Gallop, or Run, and some particular Sorts in one and the same kind, as Fish, Fowl, Beasts, Worms, and the like, are more Agil, or less Agil, for some sort of Fish swim glider than others, by reason of the Shapes, and some Birds fly swifter and longer or higher than others, and some Beast run or gallop faster and amble easier than others by their Shape, but Man surpasseth all other Shapes of Animal Creatures, by reason Man hath a part as it were of all other Creatures, by which he can Imitate the Local actions of most of other Animal Creatures, as
also

also Over-power other Creatures meerly by his Shape. But to conclude this Chapter of Local Animal Shapes, the different Local Animal Shapes in several Kinds and particular Sorts of Animal Creatures joyned with Local and Animal motions proper to each Shape, cause the several or different Proprieties, Qualities, and Faculties in every particular Kind, and every particular Sort in each kind of Animal Creatures.

CHAP. VII.

Of the External Animal Motions.

TO exprefs all Exteriour Motions belonging to Animal Creatures, is past my Power or Wit, but some few I will set down; as for Exteriour motions in Animals, they are Running, Jumping, Hopping, Leaping, Climing, Trotting, Ambling, Gallopping, Turning, Winding, Rowling, Creeping, Crawling, Flying, Soaring, Towing, Swimming, Diving, Digging, Pitching, Piercing, Throwing, Rending, Breaking, Cutting, Carving, Printing, Wreathing, Twisting, Drawing, Driving, Shoving, Heaving, Lifting, Bearing, Carrying, Holding, Staying, Gripping, Wringing, Grasping, Infoling, Squeezing, and millions the like Exteriour motions, of which Mans Shape for the most part is free, apt, and prompt to do or act, having every Part and Member free, and prompt for
divers

divers Motions and Actions ; neither can any other Animal Creature but Man move their Eyes, Hands, and Feet in so many several Motions, nor in such Numbers, Measures, and Glances as Men, so that Mans chief Excellence from other Creatures lies in his Shape ; as for the Exterieur doors and passages of Animal Shapes , they are the Pores of the Skin and Flesh, the Eyes, Ears, Nostrils, Mouth, and other Parts, in which passages and doors are made all the Exterieur Senses, as Sight, Hearing, Smelling, Tasting, and Feeling, or Touch , but Touch is a general Sense which I shall more fully discourse of at the latter End of my Book, but the Interiour Sensitive motions are Appetites, as I shall also more fully discourse of.

CHAP. VIII.

Of Mans particular Shape.

MAN in his Shape is different from all other Animal Creatures , and hath an Upright Shape which other Animal Creatures have not, which Upright Shape makes him not only fit, easie, and free for all sorts of Local motions and Actions, but for Speech also , for being Straight in a straight and direct Line, his Belly, Stomack, Chest, Neck, Throat, and Mouth , as also the Organs, Pipes, Nerves, and Sinews are straight and equal to each other, which makes his Voice ready and apt for all manner of Sounds, and his
G Tongue

Tongue apt for Speech, which other Creatures by reason of more bending Shapes and winding Organs are not so apt for, as Man is, neither is the Sound of other Creatures Voices Melodious as Mans, for theirs is either too Flat, or too Small, or too Hoarse; and as for Speech, when any other Creature speaks, it is Constrained, Forced, and not Natural; but Birds being more Upright and straight from their Breast to their Heads, than Beasts, are more apt for Speech than Beasts, but yet it is Constrain'd; but Mans Upright Shape is apt to all sorts and kinds of Exterieur Motions, for most Motions belonging to other Animals, are knit, or tied, or joyned to Mans Shape, so that Mans Shape is partly the Ground-work of all other Animal shapes, and all other Animal motions are as it were mixed in Mans Shape.

CHAP. IX.*Of the Mind.*

NOW I have discoursed of the Body of a Man, as in Producing or Creating, as also Infancy, Youth, and Age, Life and Death, and of Exterieur Motions and Shapes, give me leave to discourse of the Mind of that Animal named Man, and as I have said in the first Part of my Book, that there is a Purer and Agiler degree of Animate matter, than the Sensitive, which Pure degree I name Rational; This Rational

tional matter is as the Effence of Sensitive, as Sensitive is the Effence of the Inanimate part of matter ; this Rational degree of matter is the Mind or Soul of the Only and Infinite matter, as the Sensitive is the Life of Only and Infinite matter ; this Rational matter Lives in the Sensitive, as the Sensitive in the Inanimate matter, so as all three Degrees are intermixt ; but this Rational matter moves not as the Sensitive doth, upon the Inanimate matter, but moves by it Self, and in it Self, in Measure, Number, and Figure ; but the Rational Animate matter being in the Sensitive, and the Sensitive Animate in the Inanimate, which makes each degree inseparable in their Parts, but not in their Effects, for their Effects are different, at least not just one, but being inseparable in their Parts, every Creature is Compos'd and Indued with each degree, and amongst other Creatures Man, for as the Body increases in Growth and Life, so the Mind increases with Knowledge and Understanding ; for the Rational Animate matter comes in, and goeth out with the Sensitive and the Inanimate matter, both in their Producing, Finishing, and Dissolving ; and as Food nourishes the Body, so Experience nourishes the Mind, that is the reason that a Man hath more Knowledge and Understanding than a Child, by reason the Mind, as the Body, increaseth by degrees ; but it is to be observed, that the Rational motion doth also move sometimes Irregularly, as it doth Regularly, which is the cause of

Fools or Changelings, as Innocents, for the Animate matter both Sensitive and Rational doth not alwayes or at all times move Regularly, although for the most part it doth, but when it doth move Irregularly, it causes weak Bodies, and weak Minds, but the Rational and Sensitive Animate motions in one Figure or Creature, do not alwayes move Irregularly at one Time in one Figure, though sometimes they do, for some Times and in some Figures the Sensitive motions move Regularly, and the Rational Irregularly, and in some Figures and at some Times the Sensitive motions move Irregularly, and the Rational motions Regularly, but I shall discourse more of this Subject at the latter End of my Book, where I discourse of the Diseases of men; but to conclude this Chapter, the Interior Rational motions in Animal Creatures, especially Men, are, Thinking, Contemplating, Conceiving, Examining, Reasoning, Judging, Knowing, Understanding, Memory, Remembrance, and the like, as also Love, Hatred, Fear, Doubt, Hope, Anger, Envy, Joy, Grief, and many the like, but there is a strong Sympathy, and an Agreement between the Sensitive and Rational motions in one and the same Figure or Creature: First, as being both of Animate matter, which makes or causes that Sympathy; Next, as being Circumferenced in one Figure or Creature; Thirdly, as being Fellow-Labourers that joyn in one VVork, or as Fellow-Servants in one House, or as Parents and Children in

in one Family, but when as the Sensitive motions and Rational motions disagree in one Figure or Creature, as sometimes they will, as when the Rational Animate matter moveth not Sympathetically with the Sensitive, or that the Sensitive Animate matter moves not Sympathetically with the Rational; as when the Appetite moves one way, and the Reason another way; but for the most part they agree and are Friends, as Parents and Children. But I shall more fully discourse of each Degree in one and the same Creature and Figure, as Man, or Particular Men.

CHAP. X.*Of the Mind and Body of Man.*

NOW I have discoursed of the Body and Mind of Man apart, give me leave, Noble Readers, to discourse of them together; First, to make my Discourse clear, is to inform you, although you may inform your selves by human Sense and Reason, that, though Life and Reason, which is Sensitive Knowledge and Rational Life, or Rational Knowledge and Sensitive Life, is Rational and Sensitive Animate Matter and Motion, which Animate Matter and Motion is Infinite, yet by Self-motions hath divided it self with the Inanimate matter into particular Figures, which causeth particular Knowledges, both of Sense and Reason; for as
Sensitive

Sensitive Life is ~~as~~ a weaker Knowledge than the Rational Knowledge, so the Rational Life is a stronger Life than the Sensitive; for all Animate matter, both Sensitive and Rational, is Life and Knowledge, as Living Knowledge, and Knowing Life: But Self-motion dividing Infinite Matter into Infinite Figures or Creatures, makes several Knowledges in several Kinds, and particular Sorts in every Kind of Figures or Creatures; and not onely in several Kinds and particular Sorts in every Kind of Creature, but in one and the same Kind or Sort of Creature, as that every particular Part of the Body hath a particular Sensitive Knowledge, so that the Sensitive Animate Matter and Motions make several Knowledges in several Parts of the Body: As for Example, Each Sense hath a particular Knowledge, for the Eye knows not what the Ear hears, nor the Ear knoweth not what the Eye seeth, nor the Nose knows not of the Ear's hearing or the Eye's seeing, nor the Ears nor Eyes of the Noses smelling, nor all those Senses of the Tongue's tasting, nor the Tongue knows nothing of the other Senses; and Touch, though it be a general Sense, yet every several Touch is a several Sensitive Knowledge: The like for the Appetites, for every several Appetite is a several Sensitive Knowledge, as Hunger, Drought, and the like other Appetites: As also every several Pain, or several Pleasure, in every several Part of the Body, is a several Sensitive Knowledge; but the Rational Animate matter
and

and motions have a more general Knowledge, throughout, and of every particular Part of the Body, by reason it is not so mix'd with the Inanimate matter as to be troubled with, or to labour on the Inanimate matter, but moves purely and entirely on or in its own Matter, by which freedom, the Rational matter and motions take a general Notice, as also particular Notice of the Sensitive motions, in every several Sense and Appetite; as also of the outward Objects that the Senses present to the Rational. But this is to be observed, that, though the Rational matter is in all the parts of a Figure or Creature, yet not so Active, or so Much in some parts as in others; for in the Dens'd parts, the Rational matter and motions cannot move so Agily as in Rare or porous parts, nor in Straight parts so Free as in More comp^{as}ed parts.

CHAP. XI.

Of the Communication or Information between the Mind and Body, as between the Sense and Reason.

THe ways of Information, Communication, Trade and Traffick, or Entercourse amongst several Creatures of all kinds and sorts, are so divers and various, as I neither can inform my self, nor my Readers; for there is not onely Entercourse, Communication, Trade, and Trafick of several Degrees and Temperaments of Matter

ter and Change of Motion in Productions, Productions, and Operations of several Degrees, Changes, and Temperaments, in creating several Kinds and Sorts of Creatures, and Particular creatures in each Kind and Sort: But there be divers other Employments for the Animate matter and motion to busie it self with, not onely in Creating, Nourishing, and Strengthening, and Inlarging, and Perfecting a Figure, and to make such or such Senses or Appetites, as also Thoughts, and the like, or to work to the consistence and use of the Creature, but to furnish and feed each Sense, Appetite, or Thought with Variety, presenting every Sense, Appetite, and Thought with several Objects: But I shall not offer or endeavour to express more than the human Sense and Reason of one Creature, such as I am, can express; Wherefore I shall discourse onely of the Entercourse, Trade, Trafick, and Information of the Rational and Sensitive matter and motions amongst Men; as also of the Commerces and Information between the Sense and Reason in one Man, as between the Mind and Body of a Man; as for the Body of a Man, there be many outward several Doors or Passages, which we name Senses; These Sensitive Passages are the several Highways that the Animate matter travels thorow, as in, to, and from; but the Sensitive travels with Burdens of Inanimate matter; but the Rational hath no Encumbrances, being Free to it self; also the Sensitive matter and motions
make

make Prints and Figures of all outward Objects that are in distance of the Sensitive Passages or Doors ; as also make those several Sensitive Prints or Figures of several Objects , on the several Organs and Parts of the Body , according to the Propriety of each Sense , Organ , Part , or Object ; and then these Sensitive Prints and Figures , which the Sensitive motions make of outward Objects in the Sensitive Passages and Parts of the Body , the Rational Animate matter in the same Body streight moves its own Matter and Motions in the same Prints or Figures , by which it informs it self of the Sensitive Actions ; which Information is named Knowledge or Understanding ; and when the Rational Animate matter and motions make Voluntary figures , that is named Imagination or Conception ; and if the Senses pattern out those Voluntary Rational Figures , it is named Invention : But this is the way , or manner , or form of Information between the Mind and Body , as Sense and Reason , of which I shall discourse more fully in my following Chapters ; but this is to be observed , that the information between Man and Man , is somewhat like the Information between Mind and Body , which is Sense and Reason ; also it is to be observed , that the chief Places in the Body that are most proper for the most Commerces , Trade and Traffick , both for Forein Commodities , which is outward Objects , as also for Home-profit , which is Nourishment , Health , and Peace , as also for Variety

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and Change, are the Outward Sensitive passages, and the Inward Vital parts, both for the Sensitive and Rational matter and motions, to move and work most variously in; as for the Rational, although that Matter and Motion is in all the parts and places of and in the Body, yet the chief places or parts of the Body, in which the Rational matter moves more variously, are the Head and Heart. But, to conclude this Chapter, The Commerce, Trade, and Traffick between the Sensitive and Rational parts and motions in Men, cause Consideration, Examination, Distinguishing, Observing, Contrivance, Reasoning, Arguing, Approving, Disapproving, Judging, Acquaintance, Knowledge, and Understanding; also Love, Hate, Anger, Joy, Hope, Doubt, Delight, Pleasure, Admiration, Desire, and the like: These thoughts in the Rational mind are caused from the Sensitive Information and Commerces; but when the Information is presented from the Reason to the Sense, those Informations cause or produce Bodily Industry, as also Arts, Travels, and Discoveries; also Discourse, Talking, Laughing, Singing, Dancing, Embracing, Blushing, Trembling, Paleness, Sighing, Groaning, Shreeking, Striking, Fighting, Pains, Sicknes, and many the like. But this is to be observed, That all Informations, Trade and Traffick in the Mind and Body, are presented from the one to the other often to and again, but the Mind in one Body cannot inform the Mind in another Body, as for one Man to
express

express his Mind to another Man, but by the Sensitive motions and Sensitive passages, as by the Arts of Words, Letters, Hieroglyphicks, Lines, Notes, Numbers, and the like.

CHAP. XII.

The Imitations between the Sensitive Motions of the Body, and the Rational Motion in the Mind.

THe Rational Animate matter being not incumbered with working on the Inanimate matter, is more Loose, Free, and Agil in Self-motion, than the Sensitive Animate matter is, which is the cause that the Rational motions of the Mind are Agiler, and more ready to pattern out the Sensitive Prints or Figures, than the Sensitive is to pattern out the Rational; for both the Sensitive and Rational motions imitate each other, I will not say always, for the Rational motions can make such Figures or Prints, as the Sensitive cannot imitate, because the Sensitive is bound to the Inanimate part of Matter, but for the most part each Degree of Animate matter imitates the others Motions, as when Conceptions are put into Arts, and Arts into Memory; as also there is an Imitation of Motions between Touches and Thoughts, for Thought is a Rational Touch, and Touch a Sensitive Thought; and as there be many several Sensitive Touches, so there are many Rational

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Thoughts,

Thoughts ; and as every several Part of the Body, although never so small, hath a Sensitive Knowledge, so every part of the Mind hath a Rational Knowledge, both which is Sensitive Life, and Rational Life, the one the Creator, and the other the Surveyer, the one the Labourer, the other the Designer, which is the cause of the resemblances of Motions in each Degree ; for when the Rational Animate matter and motions move according to the Sensitive Prints and Figures, then the Rational Surveyeth the Sensitive Works, and when as the Sensitive moves according to the Rational Figures, Numbers, and Measures, then the Sensitive moves according to the Rational Instructions.

CHAP. XIII.

Of the Various Motions in the several Parts of Man.

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THE Various Motions both of the Sensitive and Rational in one Body and Mind, as they are not to be numbred, for there are millions of several Objects, of Sight, Hearing, Smelling, Tasting, Touching, or Feeling, but Touch is a general Sense, for though all the Senses are not Touch, yet Touch is in all the Senses ; and as there are millions of Various Sensitive motions in the Body, so there are millions of Various Rational motions in the Mind of one Man ; but to express all the several Motions that are in the
 Body

Body and Mind of a man, made by Sensitive and Rational Animate matter, is impossible any other wayes than by Probability and Conjecture; but as there are several Motions in one and the same Part, so there are several Motions in several Parts, as also several Motions in several Creatures; but for that Creature named Man, I observe that the Rational Animate matter, as also the Sensitive Animate matter, moves other wayes in the Head of man than in other Parts, and that the Head is as the Court or Counsel of all the Body; as for the Heart, it seems to have the next place of Supremacy, yet there are other Parts that seem as Powerfull or as Usefull as that Part; but I shall not treat of the several Motions of every several Part in and of a mans Body, I will leave that Work to those that are Wiser than I, or have more Experience; but should I treat of the Appetites of the Body, which I cannot well tell how well to do, but I ^{could} shall Expose my Self to be censured by Fools, and there are many Fools in the World; for though Infinite nature is Wise, yet particular Creatures are most Fools, by reason, Knowledge is divided into Parts, and there are not many that have great or much Shares of Knowledge in their Parts.

CHAP. XIV.

Of the Coherence of several Motions in several Parts of a Mans Body.

AS for the Sensitive and Rational matter and Motions in the Head, they are partly Intire Motions, as belonging to or proper for that Part of the Body, and partly joyning to the other Motions proper to other Parts of the Body; as for Example, a man seeth a fair and handsome Woman, he Sees her, Loves her, and Desires to Injoy her, as to Procreate by her, the Sensitive Print of the Woman is made in the Eye, or Optick Nerve, the Thought or Figure of the Womans person is made by the Rational matter in the Head, the Passion or Affection for or to the Woman is made in the Heart, the Appetite towards the Woman is made in the ~~Womb~~ ^{Womb}; all these Several Motions in several Parts cohere or link together so close as to seem to be but One Motion, and so close as if it were Individable for the Time, as the Object, Appetite, Passion, and Thought, and yet all are Several, as several Degrees, and several Motions in several Parts of the Body, and Mind, and Object.

*Parts proper
for it.*

CHAP.

CHAP. XV.

Of the Ebbing and Flowing of Animate Matter.

AS I said, that the Sensitive Animate matter Lives in dull or Inanimate matter, and the Rational Animate matter in the Sensitive, yet there is more or less Quantity, for I do not think every Part or Degree of matter lies equally in every Figure or Parts of Figures, but sometimes some Parts or Figures have more, and sometimes less, although all have some, yet not at all times the like Measure or Quantity; as the Blood in Animal Creatures, as in Men, although the Veins are spread all over or quite throughout the Body, yet some Veins are much smaller than others, as there are the Arteries, and some others, large full Veins that lie above the Arteries, so there are those Veins that are named Hair Veins, that spread to the Circumference of the Body; also the Veins are not equally fill'd, neither are the Veins so full of Blood at some times as at other times, yet the Creature, as Man, cannot Subsist or Live without Blood. So there is no Matter without Animate matter, nor no Creature can be Created, or Subsist when Created, or Dissolved, but of necessity must be Created, Maintain'd, or Dissolved by Animate matter and motion, yet every Creature, or Figure, or Part, is not indued alike, neither doth the

the Animate matter move alike in every Creature, Figure, or Part; neither is one and the same Kind or Sort of Creatures, Figures or Parts indued alike, no, nor the same Creature, Figure or Part indued at all times alike, but at some times more and some times less, like as a Man's Blood, which will some times be more, some times less, as a Man hath less Blood after an opening of a Vein, or by Sicknes, or Fasting, or Obstructions, and the like; and as there is more Blood in some parts of the Body than in others, so there is more Animate Matter in some parts than in others, as some parts will have more Sensitive Animate matter than other parts, as the Sensitive passages, or those parts that have Appetites have more Sensitive matter than some other parts, so some parts have more Rational matter than other parts, as the Head, Heart, Liver, Womb, and the like; yet none of these parts is indued at all times alike, but sometimes more, and sometimes less, according to several Occasions, Ways, Accidents, and the like, which will be too tedious, and not proper for this Chapter to treat of; but the Animate matter in every particular Figure or Creature Ebbs and Flows like as the Sea; for although there is at all times Sea, yet not at all times Full Water, nor at all times Low Ebb in all places alike.

CHAP. XVI.

Of Motions in the Head and other Parts of a Man's Body.

Observe, that the Rational Animate matter in the Head moves as often in Sculpt Figures, as in Flat Ground Figures; but in the Heart and such parts, the Rational matter moves at all times in Ground Figures and Motions, as I may term them, as in Numbers and Measures in several Motions; the Reason is, that the Sensitive Animate matter prints Sculpt Figures in the Brain or Optick Nerve, and in none other parts of the Body, unless it be in Procreation, and that is in Motions of Creation, and not Motions of Presentation; yet the Rational Animate matter in the Head moves partly in that manner of ways as Sensitive Creating motions, onely the Rational motions Create in an instant of Time, whereas the Sensitive Motions Create by Degrees.

CHAP. XVII.

The Rational Figures, as Thoughts, made in the Head.

When as the Rational matter and motions figure the Sensitive Prints, and then move these Figures, partly one way, and partly

partly another way ; or that the Rational motions intermix their own Voluntary Figures with the Figures of the Sensitive prints , it is Disputing, Arguing, Reasoning, and the like in the Mind ; also when as the Rational matter and motions do divide in several Figures , and that the Figures of the Sensitive prints compare with the Voluntary figures, it is Examination, Consideration, and Judging ; but when as the most of the Figures Voluntary, or most of the Figures of Sensitive prints , or most of any of the Figures sympathize and joyn for agreement of the most is Judgment ; and when every Rational figure is perfect and distinct without Intermixtures and Irregularities , it is Understanding ; and when the Rational figures are Voluntary, not made by the Sensitive prints , it is Conception, Imagination, Fancies, Ideas, and the like ; and when as former Figures are Dissolv'd, either Voluntary, or made from Sensitive prints , it is Forgetfulness ; and when as those former Figures are Repeated, as to be composed again, it is Remembrance ; and the present Figures, either Voluntary , or from the Sensitive prints , it is Memory ; and when as Figures are Imperfect, and Motions Irregular, it is the Maze of the Mind or Thoughts, that is , when there is no perfect Figure , there is no perfect Thought ; also when as the Rational matter and motions move beyond the Sensitive power or propriety , it is Faith ; and when as the Rational matter and motions , or figures , move not from place to place,

place, but settle in One place, it is Belief; also when as the Figures of Sensitive prints, or Voluntary figures Sympathize, it is Approving, Commending, Applauding, Admiring, and the like; but if those Figures and Notions Antipathize, it is Disapproving, Despising, Rejecting or Scorning; Thus much for the Sculptures in the Head, but the Thoughts or Memory of Sound, Sent, Taste and Touch, are Flat Ground Figures and Motions; also for Speech, all which are Letters, Notes, Numbers, Lines, and the like, which are made by Printing or Pressing motions, and not Carving motions, or Casting motions.

CHAP. XVIII.

*Of the Rational Motions in the Heart,
or such Lower Parts.*

NOW I have described the Rational Figures or Thoughts in the Head, I am to describe the Rational Thoughts or Passions in the Heart, which are all made by, or in Flat Ground Figures and Motions; but to describe such Motions and Figures well, properly, and skilfully, requires a learned Mathematician or Arithmetician, as an *Archimedes* or *Euclides*, to describe Measures, Figures, Numbers and Notes; wherefore I will onely express the Way, or Form, or Manner of my Opinions; I will begin with the prime passion of Love, as

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thus,

thus, when as the Rational matter and motions in the Heart, make and move like Notes set, or as set Notes in Musick, Harmoniously, it is Love, and when such Notes are set as for Light Airs, it is Joy, and when as Notes are set as for Grounds of Musick, it is Seriousness, when they are set as for the Gravity of Musick, it is Melancholy, and Discord of Motions is Hate, Divisions in Discords is Anger, Suspicion is false Notes, Doubt is as Broken, or crooked Lines, and Half Notes; Thus much for Notes, now for Numbers; Envy is like Odd Numbers, Fear is like False Numbers, Ambition is like Multiplication, Inconstancy is like Subtraction, Truth or Justice is as Demonstration, Constancy is as a Centre in a Circle, Self-Love or Partiality is made like a Flat Ground Figure, as when Innumerable Lines are drawn or gathered into One Point; the desire of Praise and Remembrance is, when as the Rational matter and motions, Figure Prints and move in Letters and Words of Praise, as also in all such Figures as Sensitive Architect. These Figures, Prints and Motions do move in Numerous Lines, as from one Point or Centre towards a Circumference; But enough of these Descriptions, unless I had more Learning, for I fear these few Descriptions are Foolishly expressed.

CHAP. XIX.

The Desire of Fame.

THe Desire of Fame is a Self-desire of Self-praise and Remembrance, which causes both the Rational matter and motions, and Sensitive motions and matter in the same Figure or Creature, to be industrious to Study, Invent, Frame and Build, with all their Faculties, Power and Might, for which both the Sensitive and Rational matter and motions do inform each other, and counsel each other, and help each other what they may; for the Sensitive matter and motions endeavour to declare the Rational figures and motions to other Creatures of the same Kind, and the Rational endeavours to inform the Sensitive, what they should declare, as what Words shall be spoken, or what Letters written, or Pictures drawn, or Statues cut, or Pyramids raised, or Houses built, to express their Fancies, Invention, Ingenuities, Observations, Judgments, Understanding, and Singularity to all Creatures, in all Places, and all Ages, in all Times, and Eternity.



PHILOSOPHY.

PART III.

CHAP. I.

Of Imagination or Conception.

NOtion, Imagination, or Conception, is made by the Rational matter and motions, without the Assistance of the Sensitive matter and motions, that is, without the Sensitive Objects and Prints in Sensitive Passages; but the Notions in one Mind may be like the Sensitive Objects, or Prints, or Creatures, or Motions, which are made by the Sensitive matter and motions in other Men, or any other Kind or Sort of Creatures, for the Rational matter and motion having Power of it Self, to move it Self into any Figure, Number, or Measure, may chance, nay it doth often move its Self, and Motion like to the Sensitive Objects, and prints Creatures and Motions without the Sensitive assistance; This is the reason that the Imaginations

tions or Conceptions do often prove true, according to what was Imagined, without any Information of the Senses; but when the Mind informs the Senses, then the Senses put, or at least endeavour to put, the Minds Notions or Conceptions into Arts or Sciences; also the same Notions, Conceptions, and Imaginations in one Mind, may be in an other Mind, each Mind being Unknown to each other. But to conclude, all Notions, Imaginations, Fancies, Ideas, and the like, are made much after one and the same manner of way, the difference is only in the particular Notions, Imaginations, and Ideas; as for Example, between two or more of Notions, or two or more Ideas or Imaginations.

CHAP. II.

Of Conjectures and Probabilities, and Invention, Arts, and Sciences.

Conjectures and Probabilities are made in the Mind, by the Rational Animate matter and motions; for though the Rational motions be ordinarily after the Sensitive Prints, yet not always, but some times after their own Appetites; neither are the Rational motions always exactly to the Sensitive Prints, but alter the Sensitive Prints in their Figures, making the Figures of those Prints otherwise than those Prints were presented, either Adding or Subtracting their several Figures of several Prints
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of several Objects, as also Composing several Figures of several Prints of several Objects several wayes than they were presented, by which the Rational Animate matter and motions discover new Inventions, and when they have discovered or made new Inventions, those Motions declare them to the Sensitive motions, and the Sensitive motions put them into Arts; and when the Sensitive motions discover divers Objects, or new Objects, which the Sensitive passages cannot properly, or fitly, or clearly Print or present to the Reason, then the Rational motions move several wayes to make the Prints perfect in their Rational figures, which Figures being exprefs'd or made known by the Senses and Sensitive motions, are named Sciences; for though the Sensitive motions indeavour to present perfect whole Prints of whole Objects, yet they cannot alwayes do it, but are forced to present Pieces and Parts, by reason the Sensitive Passages are not capable to receive at one time some whole Objects, for the Sense of Seeing is not capable to receive the Print of the Object of the whole Earth, or the Object of the whole Sea, or the Object of the whole Heaven, no nor a great Part of them, so that the Sensitive motions in Sensitive passages are forced to Contract the Prints of those great Objects to the capacity of the Sensitive passages by Art, as Globes, Compasses, and the like; neither can all the Whole be known but by Pieces and Parts, by reason, all Knowledge both Sensitive and Rational

onal is divided into Parts and Particles, but the Parts and Division of Knowledge causes Probabilities and Conjectures, Observations, as also Arguments and Disputations, Imaginations and Fancies, whereof some prove true, some prove false; also by reason the Sensitive knowledge lies in Parts, it causes Errors, Mistakes, and false Informations, as also Pains, Sickneffes, and the like. But, to conclude this Chapter, the Rational matter and motions in the Mind, do find out the Truth of many Particular things, as also the Generalities of several Things, Causes, and Effects out of the several parts and pieces, as also Motions from Outward objects and Sensitive motions.

CHAP. III.

What makes Arguing and Disputing, both with a Man's self, or Others; or with the Sense and Reason.

THE Cause or Motions that cause Arguing or Disputing, is, when the Rational motions and Sensitive motions do mix or intermix together, and not move apart, but do intangle each other; or when as the Rational motion intangles its own Motions in its own Matter, which causes Obstructed Understanding and Senses, which causes Disputations, also Disputations in several Men, as also one and the same Man; as when the Rational figures of one and

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the same thing move several ways, either in two Men, or one Man's mind; as for Example, Two Men have the figure of the Sun in each Mind, and that Figure moves one way in one Man's mind, and moves another way in another Man's mind; or that the figure of the Sun moves one way, and then another way in one Man's mind; Also in Sensitive motions, as when the Outward objects are not plain for the Senses to picture out, or that the Senses mistake, also when as the Sensitive and Rational motions move mixtly, as partly one piece or part of a Figure, and partly another, or more or less; also when as the Senses or Rational motions make less or more parts of Figures than naturally they are; as for Example, The Sense of Seeing will see double or treble one Object, or not see all Parts of an Object, but see as in a Mist some parts, and not other parts; So may Examples be brought of every several Sense and Object; also the Rational motions do oftentimes make more or fewer Figures from one Object, and from many several Objects but one Figure; as for Example, from the Object or Subject of One Word presented through the Ear, the Rational motions will make a Long Discourse in the Mind, and from many Arguments presented through the Ear shall make but one Judgment; Likewise through the Eye from many Prints makes but one Figure, and from one Print many Figures; as from the print of a Pint of Water makes many Figures of Drops of Water, and from

from many Drops one Pint of Water, from one Fire many Sparks, from many Sparks one Fire ; also from all the Senses and Objects, as from one Figure many Parts, and from many Parts one Figure ; also the Rational motions may make Divisions and Subtractions, as also Compositions of the same Matter as in it Self, as Joyning some Parts of one Figure to an other, and Separating and Composing its own Matter without the Sensitive Prints ; but all imaginary Arguments and Disputations are somewhat after the manner of Dreams, as some may prove true, for the most part they are false ; but as for Dreams, I shall fully discourse of them towards the latter End of my Book.

CHAP. IV.

The different Degrees of Man's Knowledge.

ALL Men have not alike Degrees of Knowledge and Understanding, nor alike Degrees of Conception, Imagination, Fancy, and the like, nor alike Degrees of Appetites, for some Men have not had so many nor such Varieties of Objects presented to their Senses, or by their Senses to their Reason, as others have had ; others have some Defect either in the Sensitive parts or Rational motions, as not to be capable to make Prints of Objects, or not to present Prints or to receive Prints orderly ; others have both their Sensitive and Rational motions Weak, which

weakness is the cause of few Appetites, and Imaginations, or Conceptions ; others, their Rational and Sensitive motions are Irregular , and that makes Fools and Mad-men.

CHAP. V.

Of Rational Knowledge in Parts.

THe Rational Knowledge is confined in Parts as well as the Sensitive , for the Rational motions in one Figure are ignorant of the Rational motions in an other Figure ; for one Man doth not absolutely know what an other Man knows , nor one Man doth not imagine what an other Man imagines , one Man may guess an other Mans thoughts, but not know them, but by Confederacy and Informations of the Senses ; also the Rational motions in Rational matter, in one and the same Figure, as in one Man , may sometimes be ignorant of each other Motions, although the Rational matter and motions, that is dispersed throughout all the Body, hath a better Correspondence with it Self, than the Sensitive Animate matter hath , by reason it is not incumbred with the Dull or Inanimate part of Matter , yet sometimes several Motions are ignorant of each other, as the Passions, or the Thoughts in the Heart will be ignorant of the Thoughts in the Head, and the Thoughts ignorant of the Passions in the Heart, as I shall more fully treat of ; also the Rational Knowledge doth

doth sometimes not take notice of the Sensitive Knowledge or Motions, for many times, when as the Rational matter is busie in moving in some Phantasm, if any thing touches the Body, or when as the Sensitive motions Print outward Objects on the Sensitive passages, the Mind takes no notice of them, being busie or earnest in making Voluntary Figures.

CHAP. VI.

Of Unities or Equalities.

IF there be Infinite degrees of Matter, and Infinite changes of Motion, and Infinite shapes of Figures, then the Degrees, Changes, Shapes or Figures may meet in Unities or Equalities, and Sympathize together; as for Example, if one Man should have the Strength of two men or four men, then the Strength of two or four men is not more than the Strength of one single man, which single man equals two or four men; also if one Line should be divided in four Parts, it shall be but equal to a Line undivided; also for Numbers, although two and one be odd Numbers, yet three and three are equal Numbers. The like Examples may be given for all Degrees, changes of Motions, and different Figures.

CHAP. VII.

Of Influence.

AN Influence is, when as the Sensitive and Rational matter and motions in divers or different or several Creatures or Figures, in divers or different or several Places, Times, Parts, or Particles, move or work Sympathetically to each other; and certainly, there is an Influence amongst all Creatures, for all Creatures being made of the Only and Infinite matter, and there being a Union in its Nature, the Creatures of this Only matter must necessarily have an Influence upon each other; but if there were no Motion, there could not be Influences, for it were impossible an Influence could be without Motion, and as impossible, a Motion could be without Matter.

CHAP. VIII.

Of Operation.

ALL Figures or Creatures have an Operative Power, which Operation is made by Sympathetical and Antipathetical motions in several Creatures or Figures, or Parts of Creatures or Figures; the Assisting Operation is caused by one, the Destructive Operation by the other, like as Poyson and Cordials, but Operations are as Infinite as Motions.

CHAP.

CHAP. IX.

Of the Procreation of Thoughts, and of Faith.

I Do not perceive in human Sense and Reason, but that the Mind procreates like as the Body, not onely with the Body, as being mix'd together, as that the Rational Animate matter and motion lives, and is intermix'd with the Sensitive matter and motions, and the Sensitive matter and motions mix'd with the Inanimate matter; but I mean by a Procreation in the Mind, as some Thoughts will produce others, and some Passions will produce others, which is, that Motion makes from such Passions other Passions; but whether such firm or fixed Thoughts, as that we name Faith or Belief, can produce an Outward Effect, especially such effect, as is not usual to be effected in Natural Works, my Human Sense and Reason cannot well perceive, unless such a Thought, that is fix'd close in conjunction with some particular Outward object, could produce such or such effects, as Slips set in the Earth, or Seed sown in the Earth, should produce Trees and Flowers, but then Doubts, as cold Northern Winds, or sharp biting Frosts, nip and kill, as to destroy the Buds of Faith, which hinders the Effects from perfection; but it is probable, that if there be a Sympathy between the Outward object and Inward thoughts, it may work some effect, but

but not so much as to remove Mountains ; also as there is Procreation of Thoughts , so there is Procreation of Words ; and as there are Natural Procreations, so there are Artificial Procreations, as the Procreation of Arts, and all Arts are Creatures ; the onely difference is , that Nature Creates not Arts as She Creates Births , which Nature is Animate matter and motion.

CHAP. X.

Of Fortune.

Matter , Figure , and Motion are the Gods that create Fortune , for Fortune is nothing in it self, but Various motions gathered or drawn to a Point , which Point Man onely thinks it fix'd upon him, but he is deceived , for it fixes upon all other Things ; for if any thing comes, and rubs off the Bark of a Tree, or breaks the Tree, it is a Misfortune to that Tree ; and if a House be built in such a place , as to shelter a Tree from great Storms , or Cold weather , it were Good fortune to that Tree ; and if a Beast or Bird be hurt, it is a Misfortune to that Beast or Bird ; and when a Beast or Bird is brought up for Pleasure or Delight, and not to Work, or be Imprison'd, it is a Good fortune to that Beast or Bird ; But, as I said before, Fortune is onely Various motions drawn to a Point , and that Point that comes from Cross motions , we call Bad fortune , and those that come from Sympathetical

thetical motions, we call Good fortune; and there must needs be Antipathetical motions as well as Sympathetical motions, since Motions are so various. But Man, and for all that I know all other things, are govern'd by Outward objects, they Rule, and we Obey; for we do not Rule, and they Obey, but every thing is led like Dogs in a string by a stronger Power; but the outward Power being invisible, makes us think we set the Rules, and not the outward Causes; so that we are govern'd by that, Which is without us, not that which is Within us, for Man hath no power over himself.

CHAP. XI.

Of Chance.

CHANCES are Visible Effects from Hidden Causes, and Fortune a sufficient Cause to produce such an Effect, for the conjunction of many Sufficient Causes produces such an Effect, which Effect could not be produced, did it want any of these Sufficient Causes, by reason all these several Causes joyn'd into one, were but sufficient to produce that one Effect, and then that one Effect makes or causes other Effects upon several Creatures; like as the Sun's Rays, that spread into several Streams or Lines upon several Creatures, and work several Effects from one Effect, as from the Effect of Heat, as that the Heat of the Sun scorches and burns

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some Creatures, and with the same Heat onely warms and comforts other Creatures, the like one Effect advances one Creature, and casts down others, kills some Creatures, and cures other Creatures, destroys some Creatures, and erects other Creatures; and when the Causes varie, and the Effects alter, it is named Chance.

CHAP. XII.

The Restlessness of Creatures.

THe reason why the Body or Mind of all Creatures, especially Men, is never at Rest, but in a perpetual Motion, is, that Motion, the ^{or} Creature of all Creatures, is Restless; this is the cause of Endless Desires, Insatiable Appetites, Divers Passions, Several Humours, Pains, Sickness, Accidents, Fortunes, Decays, Subtractions, Dissolutions, and the like; as also Creation, Infancy, Growth, Experience, Knowledge, Industry, and numbers the like.

CHAP. XIII.

Of Time and Nature.

NO question but there is a Time in Nature, for Time is the Variation of Nature, and Nature is a Producing Motion, a Multiplying Figure, an Endless Measure, an Unmeasurable Substance, an Individable Matter.

CHAP.

CHAP. XIV.

*A Sympathetical Agreement and Indeavours
between the Rational and Sensitive Mo-
tions in one Creature, for Safety
and Defence.*

There is a strong Sympathetical Agreement, and Natural Unity between the Rational and Sensitive matter and motions in one and the same Figure and Creature, not only for the Figures or Creatures Consistence, Maintenance, Use, Ease, Pleasure, and Delight, but for the Guard, Safety, and Defence; as for Example, when as one Creature or Figure assaults each other, all the Powers, Faculties, Proprieties, Ingenuities, Agilities, Proportions, and Parts, strive to defend themselves from Hurt or Dissolution; the Rational advises, the Sensitive acts; some times the Advantage lies in the Shape of the Creatures, some times in the Strength, some times in the Agility, and some times in the Advice; some times the Shape hath advantage over the Strength, and some times the Agility over both, and some times the Advice over all, and some times some Kind or Sort of Shapes hath Power over other Kinds and Sorts of Shapes, and some Kind or Sorts of Strengths, and some Kind or Sorts of Agilities over other Kinds or Sorts of Agilities, and some times some Advices or Counsels over other Advices or Counsels,

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and some times the Places, some times the Time, and some times the Numbers give Advantages. Thus according to Advantages or Disadvantages is Victory gain'd or ^{lost} ~~won~~, either by Numbers, as many, or single Persons, or Creatures, or Ingenuity, Agility, Shapes, Strengths, or the like. Much more may be discoursed of in this Chapter, but I am not willing to trouble my Readers with very long Chapters, being desirous to give respite between each Chapter.

CHAP. XV.

Of the Increase, ^{and} ~~or~~ Decay of Knowledge.

THe Rational and Sensitive Knowledge, which Lives in Sensitive and Rational Animate matter, which Rational and Sensitive Animate matter Lives in the Inanimate part of Infinite matter, is divided into several Parts and Parties by Self-motion; but this Self-motion by Self-division causes a Self-ignorance in the Infiniteness, although not in the Particularities, like as Life and Death, as the Death of some Creatures causes the Life of other Creatures, and the Life of other Creatures the Death of some Creatures, which Life and Death is the Diffolution and Creation of particular Creatures, made by Animate matter and motions; but as Self-division causes particular as well as general Ignorance, so Self-composition or Creation

tion causes particular Knowledges, for as all several Creatures are Produced, Nourished, and Increased by each others, so is particular Knowledge both of the Sensitive and Rational by the assistance of each Part and Party. This is the cause and reason, that the Observation and Experience, and Experiment of several and particular Men in several and particular Ages, joyned as into one Man or Age, causes Strong and Long-lived Opinions, Subtil and Ingenious Inventions, Happy and Profitable Effects, and probable Conjectures, and Absolute truths of many Causes, Things, or Creatures; also the Divisions and Dissolutions, as Deaths of particular Creatures, cause obscurity of particular Knowledges of particular Causes, Things, Creatures, and Truths, so that some particular Knowledges Increase and Decrease as some particular Creatures; for though the Kinds and Sorts of Creatures, and so of Knowledge last, yet the Particulars do not; as for Example, Animal kind lasts, and the particular Sort of Mankind, or any other Sort of the Animal kind lasts, yet each Man or any other Creature dissolves from what they were; But to conclude this Chapter, Rational and Sensitive Knowledge is Produced, Created, Transmigrated, and Operated by and in several Parts and Parties; and as there may be Degrees of the Sizes of several Creatures, as from Giants to Pigmyes, so there may be in several Knowledges; and as there may be Produced several Creatures from one Creature, so
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several Knowledges from one Mind ; and as there may be Produced one Creature from several Creatures, so one Truth from several Observations, and several Truths from one Observation ; and as there may be Produced several Creatures from several Creatures, so several Knowledge from several Knowledges ; and as some particular Creatures last longer than others, so some particular Knowledges last longer than others. Thus as Creatures have Dissolutions and Creations, and degrees of Continuances and Productions, as also of Increase and Decay, so hath the Sensitive and Rational Knowledge, of which I could give so many Examples of Creation, Increase, Continuance, and Dissolution, as my Book would be so Great as not any Man would take the pains to Read and Study it through out.

C H A P. XVI.*Objections against some Common Opinions of
Incorporality.*

THe Learned talk of Incorporalities to prove a thing is Nothing, that is, to be so much a thing as to have a Beeing, but not so much a thing as to have a Substance ; but Regular reason denies that, as that no Substance can have a Beeing ; but Scholars say Notions, Accidents, Motions, and the like, have a Beeing, but are of no Substance ; but plain reason indeavours to
prove,

prove that Notions, Accidents, Motions, and the like, have a Substance.

C H A P. XVII.

Object : Sense doth not Judge.

SOME Opinions are, that Sense doth not Judge, which is a Finger, which a Hand, and so for all the several Parts and Parties, and therefore is not Knowing : but that doth not prove, that the Sense is not Knowing, because it doth not Judge ; as for Example, A Man may Know, and yet not give a Judgment, the like for Sense ; but certainly, Sense is Knowing, not only in Distinguishing several Objects one from another, but for Direction ; 'Tis true, the Mind Designs, and the Senses Execute ; as for Example, A Man Designs in his Mind to go to such or such a place, the Senses Obey the Mind in the Execution, for the Eyes direct the Feet, and the Feet carry or bear the Body, and the whole Body gives strength to the Feet to bear or carry it ; And to prove the Senses have Knowledge, I say, the Eyes direct the whole Body, and the Feet, to go just to that Designed place, without the Minds further notice, for the Mind takes not notice of every step or tread of the Feet, or the Motion of the Body, and oft-times the Mind thinks not either of the Way, or designed Place the Body is going to, but is busied with other Thoughts, and yet the Senses
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carry the Body to the designed Place ; I will not say, the Senses do always Execute the Minds Designs justly, because the Senses will sometimes move Irregularly, but for the most part they Execute Justly and Rightly ; But as the Senses are sometimes apt to move Irregularly, so is the Mind. But, to conclude, if the Senses were not Knowing, the Mind could not be Informed, for the Senses are the Mind's Informers, and sometimes Reformers, so that the Senses have a Distinguishable Knowledge, if not a Judging Knowledge ; But I believe, the Senses have Judging Knowledge in and of Particulars, although not so general a Knowledge as the Rational, which we call the Mind ; but that which obstructs the Senses general Knowledge, is, that the Sensitive Animate matter is incumbered with the mixture of Inanimate matter, and the Rational matter being not so intermix'd, is more free and general in every Creature ; but yet the Rational is divided into Parts, which causeth an Obscurity of Knowledge, not onely being divided into several Creatures, but in one and the same Creature, so that the Mind as well as the Body seem to be Finite in Parts, though Infinite in Nature ; but mistake me not, for I mean Finite, as being dividable by change of Motion, not Nature from Nature, or by change of Nature or Matter.

CHAP. XVIII.

Of One Object working Different Effects upon the several Senses.

SOME Opinions are, that the Different Impressions from One Object be according to the Various Dispositions of the several Senses, and not the Various Figures, Motions, or Substance of the Object, as for an Apple, or the like Object, the Eye tells the Mind it is Green, or Yellow, or Red; the Sent, it is Mellow, or Ripe; the Taste, it is Sweet; the Hand or Touch, it is Cold and Heavy; the Senses thus affected send Messengers to the Fancy with the News of these Discoveries, so that the Fancy discovers every several Picture of what entred through the Doors, and discourses and considers the Greenness, Ripeness, Sweetness, Coldness and Weightiness, alone or Singly by it self without Relation, yet none of these hath any Distinction at all, but is One and the same Substance that makes Various and Different Impressions; This, say some, but in my Opinion, if it were onely the several and various Impressions made by the Senses, and not the Distinct various Qualities of the Fruit, one Apple of the same kind or sort would neither have the same Smell, Colour, Taste nor Touch, or Substance, much less would there be Distinct kinds

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or forts, as that is a Pippin, and that a Pearmain, or the like ; for put the case , that the Sensitive motions did move Irregularly , as oftentimes they do , is the Apple any otherwise than by Nature it should be ? No sure , for though the Sensitive motions move Irregularly , yet the Apple is the same ; and though the Senses inform the Mind falsely , yet the Mind knows by the former Regular motions , that the Change is in the Senses , not in the Fruit ; but when the Senses move Regularly , every several Sense , and Sensitive motions in the Sensitive passages , informs the Mind , for each several Sense informs the Mind according to each Senses Propriety , of each several Quality or Parts of the Fruit , as also of the whole Figure of the Fruit , so that every several Quality , or Part , or Object of the Fruit , as Colour , Sent , Taste , and Touch , is presented through several Sensitive passages , as the Eye , Nostrils , Mouth , and Pores in the Flesh of the Hand , by which several Passages , the several Qualities or Parts of the Fruit are presented in several Objects by the several Senses in the several Passages ; so that the several Senses in the several Passages make a perfect Division or Distinction of the several Qualities , which are the several Parts of the Fruit , and then the Mind joyns these several Prints of several Objects of several Parts , into the like Figure of the whole Apple , just as it is in it self , so that the distinct parts are perfectly and singly divided by the Sensitive motions in
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the Sensitive passages, and yet not taken from the Fruit, onely make several Prints or Pictures of the several Parts ; but if those Parts in the Fruit were not Distinct & Inherent in the Fruit, their Prints or Pictures could not be made ; and though the Rational matter and motion doth for the most part put all the several Sensitive Prints of the several Parts of the Apple, into one whole Figure of the whole Apple, yet the Rational motions may move in such Prints or Figures of each Part severally, as the several Senses have presented: 'Tis true, the Mind creates the Figure of the Apple, either in Whole or in Divided parts, as the Senses do present the Object, and the Senses present the Object truly as it is, unless the Sensitive motions and passages be Distempered and Irregular ; but if we understand not any thing or truth of the Outward Objects by the Sensitive motions through the Sensitive passages, but those Objects to be as the Mind will form them, and as the Senses present them, then not any one Object would appear, or be received into the Mind as to present one and the same Object twice, for several Times of Representations would make several Impressions, quite from the *different* Form, or Figure, or Nature of the Object, neither would Particular men receive or judge of one and the same Form or Figure alike, for an Apple would not seem an Apple to two Men, but it would seem an Apple to one Man, and to another Man some other Figure or Form no-

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thing like an Apple ; but Human Senses and Reason perceive and know otherwise, that is, That an Apple is an Apple to the particular and general Sense and Reason of one Man, or more Mens Senses and Reason, as that neither their Senses or Minds, if not Distempered, make such a Figure or Creature as an Apple, and not to be any thing different from the Nature, or at least as it is in its outward Form ; but if the Sensitive motions in Sensitive passages be Irregular, then they make false Prints of true Objects, and the Mind at first Reception may be Deluded ; but if the Rational motions in the Mind be Regular, they examine the Sensitive motions, and upon Examination, the Mind informs it self of the Sensitive Irregularities, or at least of the Senses Mistakes or Errors, as the Senses and Sensitive motions may mistake or commit Errors by Carelessness, or some Defect, as well as by Disorder ; also there may be some Defect in the Object, or that the Object Alters or Varies sooner than the Sense can inform it self ; also the Rational motions may move Erroniously, or Carelessly, as not to receive the Prints of Objects orderly ; as for Example, in Measures, Numbers, Weights, or Figures, as when the Senses do not give or present a just Account, either through their Weakness, Carelessness, Errors, Mistakes, or Irregularities, or Disorders, or that the Object Alters and Varies, then the Reason or Rational matter and motions argue with the Senses, or examine the Senses, upon which Rational Arguments
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and Examinations, the Senses argue and examine the Object, and then the Sense and Reason do more strictly inform each other ; but as for several Objects, they may so Vary, as to Deceive both Sense and Reason before Examination ; as for Example, a Fired end of a stick, by the swift motion of turning round, is a round Circle of Fire, for the Round motion makes the End a Circle, for several Motions make several Figures, when without that Circular motion it is but an End or Point, and not a Circle line or compass, by which Motion the Sense is not mistaken, for the End or Point by the Round compassed motion is a Circle, but the Sense is not before Examination rightly inform'd, for the Sense takes the Exterieur motion for the Interior figure, the Object being alter'd by the Exterieur Motion, but not in the Interior Nature, or Propriety, or Figure, but upon Examination of the Object, the Senses, and Reason, are rightly Informed, and the Variations easily Disccovered, or Perceived, but these Variations cause false Informations ; as for Mistakes in the Senses, or Mind, it is, when as the Senses or Reason take or present one thing for an other, as one Man for an other, without any Variation or Alteration, or to mistake Figures, or Notes, or Words, or the like, and so for Taste, Touch, or the like, as for the Irregularity of the Senses or Reason, is to be Sick, or Distracted. But to conclude this Chapter, the Sense and Reason doth Inform and Reform each other, in and of the same

same Creature, and so several Creatures do to each other; Also the Sensitive motions in the Sensitive passages divide those several Qualities in the Fruit, which in Nature is dividable; but because Art cannot distinctly and singly divide or separate them, as to separate the Taste, Colour, Sent, and Touch from each other, some deny the Separations, but Nature can do that which Art cannot do.

C H A P. XIX.

*All Thoughts, and Senses, and Objects,
are Substances.*

EVery Thing or Substance hath a Beeing, but to say Nothing, as that No Substance can, may, or hath a Beeing, is against Sense and Reason, for there is not any Motion, or Notion, Thought, Imagination, or Idea, but is of a Corporeal Substance, as also the Thoughts of Colours, Sents, Sound, and the like, or the Thoughts of Nothing, or of No Substance, is a Substance; but because these Motions and Notions, as Thoughts, are not of so Gross a Substance as our Animal Corporal Parts are, we deny them to be a Substance; the like for Dividables; as for Example, the Colour, Sent, Taste and Touch of an Apple, or the like Vegetable, because a mans Senses cannot divide them from the Whole into each Part, as to divide the Colour from the Sent, or the Sent from the Taste,
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or the Taste from the Touch, shall we say in reason they are Undividable? no, that is only Undividable, that Nature cannot divide; but though the Sense of man cannot divide them, as they are dividable in Nature, yet the human Senses divide them by the way of several Prints and Pictures; the like for the Substance of the Mind and Thoughts, which Substance is purer than human Sense and Reason is capable to know, for the Infinite purity cannot be exactly known or conceived in Finite Creatures, where is only Finite Knowledge, only the Finite Knowledge may guess or conceive there are such Purities, but not perfectly Know them.

CHAP. XX.

Of Divisible, or Dividings.

I Do not understand those that say, that a whole Figure may be Divided into many several Parts, but yet those Parts are not really there as in the whole Figure, untill by Division they are parcelled out, and then the whole Figure, out of which they were made, ceases to be any longer a Whole, for then every several Part becomes a Whole, so that the Parts are not yet in it, that may be made of it, and that the Parts in the Whole be a bare Capacity; in truth, it is beyond my Capacity to understand, or at least my weak Faith to believe it, for to my Capacity and Belief, the Parts are in the Whole, although undivided,

divided, and the Whole in the Parts, when divided, unless the Matter were Annihilated, and then there would be neither Whole nor Parts, but the Figures whole. Parts and Motions live or lie in the Substances, whether Divided or not Divided, and Figures and Dividables are as Infinite as Matter and Motions ; neither is there any such thing as Individables in Nature, but as there are Infinite Divisions, so there are Infinite Compositions , so that the Infinite Compositions do Equalize or make an Unity with Infinite Divisions , for one Infinite doth Counterpoise an other Infinite, which makes Order and Method in Infinite Nature , but Infinite Nature is beyond a Finite Capacity ; But mistake me not, for these several Infinite Divisions, and Compositions, and Figures, and Changes of Motions, are but the several Infinite Actions in one Infinite Matter and Nature.

CHAP. XXI.*Of Notions.*

They say the Notions are Nothing , but I, an ignorant Woman , believe Notions to be Something , for Notions are Thoughts , and Thoughts is Animate matter, figured by Self-motions , therefore Notions of Nothing cannot be, for we cannot Think, but it hath some Thing, or Matter, or Substance , as a Ground to move on , as Measure , Place , Space , Number , Weight ,

Weight, Parts, Figures, or the like, which are all mix'd with Substance, if not with such Substance as is subject to the Senses of a Man, yet of such Substance as may be perceived by Human reason, but what our Human sense and reason cannot perfectly define, we deny the Principle; but Notion is Obscurity of perfect Figures, as when perfect Figures are not made by the Rational Animate motions from outward Objects or Senses, but are made out of their own voluntary and intire Motions, without the help of the Sensitive prints, or else are made partly by the Sensitive prints, and partly by its own voluntary or singular Motions, or else that the Animate matter doth not move as in a circumferenced limited Figure, but as in a continued Line or Stream. Thus are Notions made, as for Example, when we think of Infinite, then the Rational matter and motions move as in a Line, without Period or Ends, Points or Divisions, and when we think of Nothing, then the Rational matter moves in Dilatation without Division, or perfect Prints or Figures; for the thoughts of Nothing are as Ciphres amongst Numbers, but the Thought of Infinite Nothing and Absence is much after one and the same way of Rational matter, movings or motions.

CHAP. XXII.

Of Notions, or of the Thoughts; of Deafness, Dumbness, Blindness, Lameness, Baldness, Absence, Death, and Sin.

THese Thoughts are made, as all Thoughts are, of Rational substance, and partly from Sensitive figures and Objects; for Rational matter with Self-motion makes Figures of Sensitive Creatures, and several Objects, that the Sensitive Animate matter working in each Sense presents to the Rational, and the Rational matter and motions make those Sensitive figures that have been presented, as much, or perfect, as those that are presented; as also present and former Sensitive objects at one time, and many several Objects that were presented at several times, which the Rational makes or moves in at one time; for the Rational Animate matter makes millions of Figures and Motions in the like Time, Place, or Space of Sensitive Creation Figures or Motion, being Purer, Agiler and Freer; As for the Thoughts of Deafness, Dumbness, Blindness, or the like, the Rational motions make Sensitive figures, such as a Man, or the like, in Rational matter, But the Organs, or Sensitive passages of that Figure to be Defective, or Stop'd, or to make neither Notes, Numbers, Measures, Lines, or Local motions, as Sound, Words, Light, and Walking,

ing, for Sight, Hearing, Speaking, or Walking ; the like for Baldness, as to make a Figure of a Man's Head without Hair, these are the Thoughts or Notions of Deafness, Dumbness, Blindness, Lameness and Baldness ; as for Absence, the Rational motions make and move Sensitive figures in Rational matter, and each Figure to be Separated from each other, as having other Figures between the Separated, as the Figures of two Men, and the Figures of Air, Water, Earth, and the like, between each other ; but if they onely make Absence, then there is no Separation or Middle-place, but is onely a Line with two Ends, or without Ends. These are Thoughts or Notions of Absence ; as for the Notions and Thoughts of Death and Dead, 'tis thus, When as the Rational motions figure out an Animal figure in the Mind, without Sensitive and Local motion, this is the Thought of Dead, and when that Figure is Dissolved, that is the Thought of Death. Thus are the Notions and Thoughts of Dead and Death. As for Sin, I know not how to define or describe it, by reason of several Religions, and several Opinions in every several Religion ; wherefore I will pass by that, and leave it to the true Church ; but stepping aside from Divinity to Natural Philosophy, my Opinion of Notions and Thoughts, are made after my former Descriptions ; for Rational matter being a more Pure Degree of Substance, and Agiler motion, makes Rational Knowledge, or Thoughts,

or Notions of Sensitive figures and motions, as also Figures, as Thoughts or Notions, without Sensitive patterns, for the Rational matter and motions make many Notions, like as Imaginations, that is to move in Figures, not made by the Sensitive Prints, but after a more freer manner, not bound to Sensitive prints or objects, but of its own choice; also the Rational motions make Figures of Sensitive objects, without the Sensitive patterns, as when we remember what we have Heard, Seen, Tasted, Touched, Smell'd, and the like, then the Rational motions work by Rote: But I shall Treat more of this in other Chapters in my Book.

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PHILOSOPHY.

PART IV.

CHAP. I.

Of Matter, Motion, and Figure.

AS I said before in the First Part of my Book, that there is no First matter, nor no First motion, because Eternal and Infinite, yet there could be no Motion without Matter, for Matter is the Cause, Motion but the Effect of Matter, for there could be no Motion unless there were Matter to be moved; but there might be Matter and Figure without Motion, as an Infinite and Eternal dull Lump, for I see no reason but Infinite might be without running Forward, or Circle-wayes, if there were not several Degrees of the Only matter, wherein Motion is an Infinite Eternal effect of such a Degree. Neither is it Non-sense to say, Figure is the effect of Matter; for though there is no Matter without Figure,

figure, yet there could be no Figure without Matter, wherefore Matter is the prime cause of Figure, but not Figure of Matter, for Figure doth not make Matter, but Matter Figure, no more than the Creature can make the Creator, but a Creature may make a Figure. Thus although there is no First matter, yet Matter is the first cause of Motion and Figure, and all Effects, although they are as Infinite and Eternal as Matter it self; and when I say Matter prime, I speak for Distinctions sake, which is the Only matter. The Animate matter is the Soul of Nature; The Inanimate part of Matter, the Body; The Infinite figures are the Infinite Forms of Nature, and the several Motions are the several Actions of Nature.

CHAP. II.

Of Causes and Effects.

AS I have said before, the Effects are Infinite and Eternal as the Causes, because all Effects lie in Matter and Motion, indeed in Matter only, for Motion is but the Effect of Matter; Wherefore, all particular Figures, although Dissolvable, yet are inherent in the Matter and Motion; as for Example, if a Man can draw the Picture of a man, or any thing else, although he never draws it, yet the Art is inherent in the Man, and the Picture in the Art, as long as the Man Lives; so as long as there is Matter and Motion,

Motion, which was from all Eternity, and shall be Eternally, the Effect will be so.

CHAP. III.

*Whether Motion be a Thing, or Nothing,
or can be Annihilated.*

SOME have Opinion, that Motion is Nothing, but to my reason it is a Thing, for if Matter is a Substance, a Substance is a Thing, and the Motion and Matter being inseparably United, makes it but one Thing; For as there could be no Motion without such a Degree or Extract of Matter, so there could be no such Degree or Extract of Matter without Motion, thus Motion is a Thing. But by reason particular Motions leave moving in such Matters and Figures, shall we say they are Deceased, Dead, or become Nothing? But say some, Motions are Accidents, and Accidents are Nothing, but I say all Accidents Live in Substance, as all Effects in the Causes; Say some, when a man for Example shakes his Hand, and when he leaves shaking, whither is that Motion gone? say others, no where, for that particular Motion ceaseth to be, say they. I answer, that my reason tells me, it is neither fled away, nor ceased to be, for it remains in the Hand, and in that Matter that Created the Hand, that is, in that and the like Animate matter that is in the Hand. But some will say, the Hand never moves so again, but I say
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the Motion is nevertheless there; they may as well say, when they have seen a Chest full of Gold, or the like, and when their Eyes are shut, or that they never see it more, that the Gold doth not lie in the Chest, although the Gold may lie there Eternally, or if they should see it again, say it is not the same Gold: So likewise particular Motions are but Shewed, not Lost, or Annihilated; or say one should handle a Vessel often, that every time you handle the Vessel, it is not the same Touch, Vessel, or Hand, and if you never touch the Vessel again, that the Hand, Vessel, or Touch is Annihilated. But particular Motion, as the Vessel or Hand, is but Dissolved, not Annihilated, for particular Motions can be no more Annihilated than particular Figures that are Dissolved, and how in reason can we say particular Figures are Annihilated, when every Part and Parcel, Grain and Atom remains in Infinite matter? but some will say, when a House, for Example, is pull'd down, by taking asunder the materials, that very Figure of that House is Annihilated; but my Opinion is, that it is not, for that very Figure of that House remains in those materials, and shall do Eternally, although those materials were Dissolved into Atoms, and every Atom in a several Place, Part, or Figure; and though Infinite figures should be made by those materials, by several Dissolutions and Creations, yet those Infinites would remain in those particular materials Eternally, and were there from all Eternity; and if any of those Figures

figures be re-built or created again, it is the same Figure it was. So likewise the Motion of the Hand, which I said; for Example, if the same Hand moves after the same manner, it is the same Motion that moved the Hand before; so it may make Infinite Repetitions. Thus one and the same Motion may move Eternally, and Rest from moving, and yet have a Being. Some are of an opinion, that Fire is onely a Motion; 'Tis true, Fire, as all other Creatures, are made by Motion, but Fire cannot be a Motion without Matter, for Motion cannot act without Matter, no more then Matter can move without Motion; but Motion and Matter are inseparable, for though Matter may be without Motion, yet Motion cannot be without Matter; but some Men observing that Change of motion upon one and the same Matter makes several Figures or Forms, believe that those Figures or Forms are onely Motion without Matter.

CHAP. IV.

Of Motions.

THere are millions of several Motions, which agree to the making of each Figure, and millions of Several motions are knit together, for the General motion of that Figure, as if every Figure had a Common-wealth of several Motions, working to the subsistence of the Figure; and several sorts of Motions, like several

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ral sorts of Trades, hold up each other ; some as Magistrates and Rulers , others as Train-bands as Soldiers ; some make Forts, and dig Trenches some as Merchants that Traffick ; some as Seamen and Ship-masters ; some that labour and work , as , some Cut and Carve , others Paint and Ingrave, some Mix and Temper , Joyn and Inlay , and Glue together ; some Form and Build ; some Cast in Mold , and some make Molds to Cast ; some work Rough-casts, some Polish and Refine , some bear Burthens , some take off Burthens , some Dig , some Sow , some Plough , some Set , some Graft , some Plant , some Gather , some Reap , some Sift , some Thrash, some Grind, some Knead, some Bake , some Beat, some Spin, some Weave , some Sew together, some Winde and Twist , some create Arts, and others dissolve Arts , and millions of millions of External motions ; but as we see External , so we may imagine are Internal motions ; but the Obscure motions certainly are more Various, and Subtiler, and Agiler.

CHAP. V.

Many Motions go to the Producing of one Thing, or to one End.

THere are millions of Several motions go to the making of one Figure, or in mixing, as I may say, of several Degrees of the Inanimate part of Matter, as I will give one for Example
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in Gross External motions, where I will describe it by Digestive motions, which is to fit Parts, and to distribute Parts to several Places proper to the Work; For Digestive motions, there are many several Sorts or Kinds of Motions mixt together, as for Example, a piece of Meat is to be boiled, or the like, some Motions cut Fuel, and others take it up, others carry, others lay it down in a Chimney, or the like place, others put fire, others kindle it and make it burn, others take Metall and melt it, others cast such a Figure as a Pot, others bring the Pot, others set it over the fire, others take up Water, others carry that Water to the Pot, others put that Water into the Pot, others kill a Sheep, others divide it into parts, others put a part into the Pot. Thus a piece of Meat cannot be boiled without all these Motions, and many more, which would be too tedious to relate, for I could have enlarged it ten times as much, onely in boyling a piece of Meat, and if there be so many several Motions in our Gross Sense in such things as these, then what is there in Infinite Nature? Yet for all these Infinite Varieties of Motions, as I said before, I cannot perceive but six Ground-motions, or Fundamental motions, from whence all Changes come, which are these, Attractive motions, Contracting motions, Retentive motions, Dilative motions, Digestive motions, and Expulsive motions; likewise, although there be Infinite Kinds, and different Figures, yet the Ground-work from
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whence arises all the Variety, is but from these Figures, as Circular, Triangular, Cube, and Parallels, High, Low, Narrow, Broad, Thick, Thin; And as there are Infinite changes of Motions in the Sensitive Animate matter, working on the Inanimate Parts of matter, so there are Infinite changes of Motions in the Rational Animate matter, making Infinite kinds of Knowledge, and Degrees of Knowledge and Understanding; and as there are Infinite changes of Motion, so there are Infinite effects, and every Produced effect, is a Producing effect, which Effect produces Effects, and the Only matter is the cause of all Effects, for the several Degrees of Only matter is the Effect of Only matter, and Motion is the Effect of some sorts of the Degrees of Only matter, and Varieties are the Effects of Matter and Motion, and Life is the Effect of Animate matter, and Knowledge the Effect of Life.

CHAP. VI.*Of the six Principal Motions.*

AS I have said, there are Infinite Contractions, Attractions, Retentions, Dilatations, Digestions, and Expulsions; and to explain my Self to my Readers as well as I can, unless they should mistake me, I will here describe, although after a Gross way, yet according to my Capacity, a few of the Infinite variety of Motions:

ons: First, there are six Principal Motions, from whence Infinite Changes are made or Produced, as from Contractions, Attractions, Retentions; these three Principal Motions do in some kind Sympathize to each other, and Dilatations and Expulsions do also Sympathize to each other, but Digestion is a Mixt motion taking part of all, but I divide them into six parts for Distinction. Now to treat of them severally, we must make an imaginary Circumference and Centre. Then first for Attractions, which is to draw Parts to Parts, or to draw Parts from Parts, or to draw several Parts together; yet Attractions draw not after one and the same way or manner of way, but after divers manner and several Fashions, Forms, and Biasses, and several Motions; In those Motions some are Slow, some Quick, some Cross, some Even. Again, sometimes Attractive motions draw, as if one should pull in a Line, or draw in a Net, some Slope-ways, some Straight-ways, some Square-ways, some Round-ways, and millions of the like Varieties in this sort of Motion, yet all Attracting motion. Secondly, Contracting Motions, which move after an other manner; for though both these sorts of Motions are to bring Parts together, yet Contraction tends more towards a Point, and strives, me-thinks, more against Vacuum, than Attraction, gathering all into a firm Body, stopping up all porous Passages, shutting out Space, and gathering in Matter as close as it can; Indeed, Attractions are but in the way to
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Contractions, as Dilatations to Expulsions ; but this sort of Motions is Surfling, Pleating, Folding, Binding, Knitting, Twisting, Gripping, Pressing, Tying, and many the like, and after several manners or fashions. Thirdly, Retention is to hold or to stay from Wandring, to Fix, as I may say, the Matter to one place, as if one should Rivet, Stick, or Grew Parts together. Fourthly, Dilatations are to inlarge, as to spread or extend, striving for Space or Compass ; it is an Incroaching motion, which will extend its bounds as far as it can ; this sort of Motion is Melting, Flowing, Streaming, Spreading, Smoothing, Stretching, and millions of the like. Fifthly, Expulsive is a Motion that shuns all Unity, it strives against Solidity and Uniformity, it disperses every thing it hath Power on ; this sort of Motion is Breaking, Dissolving, and Dispersing Parts from Parts. Sixthly, Digestive motions are the Creating motions, carrying about Parts to Parts, and fitting and matching and joyning Parts together, mixing and tempering the Matter for proper uses ; but in every Kind and Sort of Motions there are divers Manners and Changes.

CHAP. VII.

*Of Double Motions at one and the same Time,
on the same Matter.*

AS there are several Changes in particular Motions, so there are Double motions; as for Example, Spinning Flax or the like, is drawn long and small, twisted hard and round, and at one time. Again, a Bowl runs round-way, and yet straight out at one time. A Shuttle-cock spins about in a straight Line. The Wind spreads, and yet Blows straight out at one and the same time. Flame ascends Circular, and many the like Examples may be given; as also the Intermixing motions, and some Motions are partly of one Sort, and partly of other Sorts of Motions.

CHAP. VIII.

Of several Strengths.

ALTHOUGH there be Infinite Strengths of Motion, yet not to all sorts of Figures, nor to all degrees of Matter, for some Figures move slow, others move swift, according to the nature of the Shape, or the interior Strength, or the degree or quantity of Animate matter that Created them, as the Animate Mind, and the Animate Body, which we call Sense and Reason,

son, which Sense and Reason may be in every thing, though after different manners, but we have confined Sense onely to Animal kind, and Reason onely to Mankind; but if the Animate matter is in the Inanimate part of Matter, as the Life in the Body, then there is no part that hath not Sense and Reason, whether Creating or Created, Dissolving or Dissolved, though I will not say that every Creature enjoys Life or Knowledge alike, yet every Figure is Animated, for it is Animate matter that Creates and Dissolves Figures, yet the Animate matter works according to the several Tempers of the Inanimate part of matter, and to such Proprieties and Figures, and Figures Proprieties, and proper Figures, that is, Motion doth form the Onely matter into Figures, yet Motion cannot alter the Entity of Onely matter, but Motion can and doth alter the Interior and Exterior Figures, and though the several Degrees of Matter may be placed and re-placed in Figures, yet the Nature of the Matter cannot be altered.

CHAP. IX.

Of the Agility of Animate Matter.

ANimate matter seems much nimbler in some works than in others, as making Elements, and their several Changes, being more Porous than Animals, Vegetables and Minerals, which are more contracted, and not so easily

easily metamorphosed ; and on the Thin part of Inanimate matter they seem much Nimbler and Agiler, than when they work on the Gross part of Inanimate matter, for though the Animate matter can work but according to the strength, yet not always according to that strength, for their burthens are not always equal to their strength ; for we see in Light, Thin, Inanimate matter, their Motions to be more Swift, having less Incumbrances, and lighter Burthens, unless it be opposed and stopped by the Animate matter that works in the more Solid or Thicker part of Inanimate matter, or moves Solid and United Figures ; yet many times the Animate matter that works on the Thin part of Inanimate matter, or in more Porous Figures, will make way through Solid and Thick Bodies, and have the power on those that work on more Gross matter ; for the Animate matter, that works on Gross matter, cannot resist so well, having greater Burthens, nor act with that Facility as the others can, whose Matter is Lighter, or Figures more Porous ; for we see many times Water to pass through great Rocks and Mountains, peircing and dividing their Strengths by the frequent Assaults thereon, or to ; yet many times the Pass is kept or lost, according to the Quantity of the Animate matter of either side.

CHAP. X.

*Of Repeating one and the same Work,
and of Varieties.*

Nature may Repeat one and the same Creature if she pleases, that is, the same Motions on the same Matter may Create the same Creature, by reason the same Motions and the same Matter is Eternally in the Body Infinite; Thus the Original Cause of producing one and the same is Eternal, by reason nothing in Nature can be annihilated, and though the Infinite matter is but one and the same, yet the Infinite part of Animate matter moves Infinite several ways, and by reason of the Diversity of Motion there is such Variety, as seldom any two Creatures are alike, for Motion delights in Variety, not so much in the different Kinds, as in the particular Creatures, which makes me think, that Motion is bound by the Nature of the Matter, to make such Kinds, although it be at liberty for Particulars; and yet the several Kinds may be as Infinite as the Particulars; as for Example, although Motion is bound to Animal kind, Vegetable kind, Mineral kind, and also to make such kinds of Worlds as this is, yet Motion may make Infinite particular Worlds, as Infinite particular Animals, Vegetables, Minerals, and those Infinite Worlds may differ as those Kinds of Creatures; for Worlds may differ from
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other Worlds, not onely as Man from Man, but as Man from Beast, Beasts from Birds, Birds from Fish, and so as Vegetables do; for an Oak is not like a Tulip or Rose, for Trees are not like Flowers, nor Flowers like Roots, nor Roots like Fruit, nor all Flowers alike, nor all Roots alike, nor all Fruits alike, nor all Trees, and the rest; and so for Minerals, Gold is not like Lead, nor a Diamond like a Pibble-stone; so there may be Infinite Worlds, and Infinite variety of Worlds, and be all of that kind we call Worlds, yet be nothing alike, but as different as if it were of another Kind, and may be Infinite several Kinds of Creatures, as several Sorts that we can never imagine, nor guess at; for we can guess or imagine at no other ways, but what our Senses brought in, or our Imaginations raised up, and though Imaginations may in nature be Infinite, and move in every particular Brain after an Infinite manner, yet it is but Finite in every Particular figure, because every Particular figure is Finite, that is, every Particular figure comes by Degrees from Creation to a full Growth, from a full Growth to a Decay, from a Decay to a Dissolution, but not Annihilation, for every Particular figure lies in the Body Infinite, as well as every particular Kind; for unless Eternal and Infinite matter, and Eternal and Infinite motions could be annihilated, Infinite figures will Eternally remain, although not in their Whole bulk, yet in their Parted pieces or Parts; for though one and the same Matter may

be made into other Figures, yet the former Figures have as much a Being as the present Figures, by reason the Matter that was the cause of these Figures hath an Eternal Being, and as long as the Cause lasts, the Effects cannot be Annihilated.

CHAP. XI.

Of Creation, and Dissolving of Nature.

THE Divisions and Subtractions, Joyning and Creations are not alike, nor do they Continue and Dissolve with the like measures of time, for some Vegetables are Old and Decrepit at a Day old, others are but in their Prime after a Hundred years, and so some Animals, as Flies and the like, are Old and Decrepit at a Year old, others, as a Man, is but at his Prime at Twenty years, and will Live a Hundred years, if he be Healthy and Sound; so in the Minerals, perchance Lead, or Tin, or the like, is but as a Flie for continuance to Gold, or like a Flower to an Oak; then it is probable, that the Sun and the rest of the Planets, Stars, and millions more that we know not, may be at their full Strength at ten hundred thousand years, nay, million of millions of years, which is nothing to Eternity, or perchance, as it is likely, other Figures were at full Strength, when Matter and Motion Created them, and shall last untill Matter Dissolves them. Again, it is to be observed, that

that all Spherical Figures last longest, I think it is, because that Figure hath no Ends to ravel out at. Some say, that Gold is not to be altered from the Figure that makes it Gold, because Chymists have tried, and cannot do it; but certainly, that innated Motion, that joyns those Parts, and so made it in the Figure of a Mineral, can dissolve those Parts, and make it into some Figure else, to express an other Thing; but being a more Solid Part of Inanimate matter, than that which makes other Minerals, it is longer a Creating and Dissolving than the other Figures are, that are of a Light or Softer substance, and may be, the Motions that make Gold, are of Slower nature, so as it is caused from the Hardness of the Matter, or the Slowness of the Motion caused by the Curiosity of the Work, wherein they must use more different Motions than in other Figures, so as it may be a thousand years Uniting, or a thousand years a Dispersing, a thousand, nay, ten thousand; for there is no Account, nor time in Nature Infinite, and because we last not so long as to perceive it, shall we say that Gold was Eternal, and shall last Eternally? So we may as well say of an Oak, that is an Hundred years ere it comes to full Maturity, and an Hundred years ere it comes to be Dissolved, that it was an Oak Eternally, and shall be so Eternally, because a Flower is Created, and Dissolved in two or three dayes; but the Solidity of the Matter, and the Curiosity in the several Changes and Enterchanges of Motions
prolong

prolong the Work, yet it is hastened, or retarded by the Quantity or Strength of Animate matter and motions that Work therein; for when there is more, it is Sooner Formed, when less, Longer ere it come to its figurative Perfection.

CHAP. XII.

Of Sympathies and Antipathies, which is to Agree or Disagree, to Joyn or to Cross.

THERE are Infinite sorts of Figures or Creatures that have Sympathy, and Infinite sorts of Figures that have Antipathies, both by their Exterior and Interior motions, and some Exterior Sympathy^{ize} with some Interior, and some Interior with some Exteriors, and some Exterior with Exteriors, and Interior with Interiors, both in one and the same Figure, and with one and the same Kind, and with different Kinds, and with several Sorts, which works Various Effects; as in Animals and Vegetables, some Vegetables will so much Antipathize with some Animals, as to cause a Destruction, and some Vegetables do so Sympathize to Animals, as the Animals could not subsist without their Assistance.

CHAP. XIII.

There is no Supreme Knowledge.

THe Infinite matter being Divided by Self-motion into Parts, cannot know it Self, nor no Part doth absolutely know it Self, for Knowledge Lives in Parts, and there are as many several degrees of Knowledge as of Animate matter, which is Infinite, and therefore not Absolute, and as much Variety of Knowledge, as there is of Motions; and though all Animate matter is Knowing, yet all Animate matter is not Known, this makes Figures to have of each others a Suppositive, but not an Absolute Knowledge; Thus Infinite makes Animate matter in some kind a stranger to it Self, yet being Knowing, although not Known, it makes an Acquaintance with Parts of it Self, and being Various by Interchanging motions, it also loseth Acquaintance; the Acquaintance we call Learning, Invention, Experience, or Memory; the Unknown, or not Acquainted, we call Stupidity, Ignorance, Forgetfulness, Illiterate; but by the Acquaintance of Experience, we come to find the Use of many things, and by the Use we come to Learn, and from our Learning we come to Practise, and by our Practice we come to produce many Effects from the hidden and mystical Causes, which are the Effects from the Only cause, which is the Only matter; Thus we come to

to find the use of Earth, Water, Air, and Fire, Vegetables, Minerals, and so Animal with Animal; and we do not onely get new Acquaintance, which is new Experience, but we make use of our Acquaintance to our own Benefit, or at least we strive to do so; for it is the nature of Life, which Life is Animate matter, to strive for Preheminence and Absolute Power, that is, Onely matter would Rule it self, but being Infinite, it neither Absolutely Knows it self, nor can Absolutely Rule or Govern it self, and though it be an Endless Work, yet Motion, which is the Moving part of Nature, cannot desist, because it is Infinite and Eternal; Thus Moving matter running perpetually towards Absolute Power, makes a perpetual War; for Infinite and Onely matter is always at strife for Absolute Power, for Matter would have Power over Infinite, and Infinite would have Power over Matter, and Eternity would have Power over both. Thus Infinite and Eternal matter, joyned all as to one, is always at strife in it self, yet the War is Regular, not Confused; for there is a Natural Order and Discipline in Infinite Nature, as much as cruel Tyranny; for there is a Natural Order and Discipline oftentimes in cruel Tyranny; But as for Sympathies amongst Mankind, it causes Community, Associations, Commerces and Government; and Antipathy causes Divisions, Wars, and Destruction.

CHAP. XIV.

Of Different Knowledge in Different Figures.

Certainly there are infinite several Kinds, as well as infinite several Sorts, and particular Creatures in Nature; and certainly^m every several Kind, nay, every several Sort in every Kind, Knowledge works after a Different manner in every Different Figure, which Different manners we call Particular knowledges, which work according to the Figure, so Infinite knowledge lies in Infinite figure, and Infinite figure in Infinite matter; and as there are Infinite degrees of Matter, so there are Infinite degrees of Knowledge; and as there are Infinite degrees of Knowledge, so there are Infinite degrees of Motions; and as there are Infinite degrees of Motions, so there are Infinite degrees of Figures; and as there are Infinite degrees, so there are Infinite kinds; and as there are Infinite kinds, so there are Infinite sorts, and so Infinite particulars in every Sort; yet no Kind can be said to have Most or Least, though Less or More, for there is no such thing as Most or Least in Nature, for, as I said before, there is onely Different knowledge belonging to every Kind, as to Animal kind, Vegetable kind, Mineral kind, and infinite more which we are not capable to know, but two particular Sorts in every Kind; as for Example, Man may have

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a different Knowledge from Beasts, Birds, Fish, Worms, and the like, and yet to be no Wiser or Knowing than they; for Different ways in Knowledge make not Knowledge more or less, no more than Different Paths inlarge one Compass of Ground, nor no more than several Words for one and the same Thing, for the Thing is the same, onely the Words differ; so if a Man hath Different knowledge from a Fish, yet the Fish may be as Knowing as Man, but Man hath not a Fish's Knowledge, nor a Fish a Man's Knowledge. Likewise some Creatures may have more and some less Knowledge than others, yet none can be said to have Most or Least, for there is no such thing as Most or Least in Nature; nor doth the Weakness or Imperfection in particular Creatures impair the Knowledge of the Kind, or impair the Knowledge, as I may say, belonging to any particular Sort, nor can any one have such a Supremacy of Knowledge, as to add to the Knowledge of the Kind, or Sort of kind, as to have such a Knowledge as is above the Capacity of that Kind or Sort to understand. As for Example, A Man to know more than the Nature of Man is to know, for what Knowledge Man hath had, or can have, is in the Capacity of the Kind, though not to every Particular man; for though Nature may work Within her self, yet she cannot work Beyond her self, and if there be Mix'd Sorts of Creatures, as, partly Man and partly Beast, partly Man and partly Fish, or partly Beast and partly

partly Fish, and partly Fish and partly Foul; yet although they are Mix'd Creatures, and may have Mix'd knowledges, yet they are Particular sorts, and Different knowledges belonging to those Sorts; and though Different sorts have Different knowledges, yet the Kind may be of one and the same Degree, that is, every several Sort of Creatures, in one and the Same kind, is as Knowing and as Wise as another, and that which makes some Creatures seem less Perfect than others, or more Knowing than others, is the Advantage or Disadvantage of their Shape, which gives one Creature Power over another, but Different knowledge in Different Creatures takes advantages by turns according as it turns to it. And as there is Different knowledge, and Different kinds, and Several sorts, so there is Different knowledge in Different Senses in one and the same Creature; for what Man hath seen the Interior Biting motion of Cold, and Burning motions of Heat? yet feels them; we imagine by the Touch the Interior nature of Fire to be composed of Sharp Points, yet our Sight hath no knowledge thereof; so our Sight hath the knowledge of Light, but the rest of our Senses are utterly ignorant thereof; our Ears have the knowledge of Sound, but our Eyes are ignorant of the knowledge thereof; thus, though our Ears may be as Knowing as our Eyes, and our Eyes as Knowing as our Ears, yet they may be ignorant of each other; I say Knowledge, for Sense is Know-

ledge as well as Reason, onely Reason is a Degree above Sense, ^{and} ~~or~~ Sense a Degree beneath Reason.

CHAP. XV.

The Advantages of some Figures ^{and} some Degrees of Matter and Motions over Others.

IF we do but strictly prie into the Works of Nature, we shall observe, that all Internal motions are much after the manner of External motions, I mean those Motions that we can perceive by those Effects that are subject to our Senses; and although for the most part the Strongest motions govern the Weakest, yet it is not always found that they Conquer the Weaker, for there are Infinite Sights, or Infinite Advantages to be taken or mist in Infinite Nature, some by the Shapes of their Figures, and some in the Degrees of Matter, and some in the Manner of Moving; for Sights are just like the Actions of Juglers, Vaulters, Tumblers, Wrestlers, or the like; for Shapes, I will give one or two for Example, as a little Mouse, which is but a weak Creature in comparifon to an Elephant, yet the small Mouse shall overcome the Elephant by running up through the Snout, and so get into the Head, and so gnaw on his Brain; and a Worm is a weak Creature in comparifon of a Man, yet if he get into the Guts, it will gnaw out his Bowels, and destroy that Figure. So

So for degrees of Matter, what advantage hath the Animate matter, or the Inanimate part of matter? and for Motions, most often the Nimble and Agil motions get an advantage on the Stronger, if more Slow: and oftner by the Manner of Motions, for many times a Diving motion will have the better of a Swimming motion, a Jumping motion of a Running motion, a Creeping or Crawling motion of either, a Darting motion of a Flying motion, a Cross motion of a Straight motion, a Turning motion of a Lifting motion, so an Attractive motion of an Expulsive motion, and Infinite the like, and every Motion may have their advantages by Turns, and then the advantages of Place, and of Times, as I may call it for Distinctions sake, some Creatures will suppress other Creatures in the Night, when the Suppressors dare not appear to the Suppressed in the Light; a great Army shall be Destroyed by a little Army, by standing in a Lower patch of Ground, or by Fighting at such a time of the day when the Sun Shines on their Faces; but it would be too long for *Methusalems* Life to set down Examples, being Infinite; but this shall serve to express my Opinions.

CHAP. XVI.

Of Figures in Figures.

MOST Figures are Lined and Interlined, as I may say, for Expressions sake, some Figures are like a Set or Nest of Boxes, as for Example, half a dozen Boxes one within an other; so every of those Figures hath the same Figure within one an other, the Uttermost Figure being the Largest, the Inmost Figure the Least; as for Example, a Man builds a House, first he builds the Figure of that House with Wood, as Beams, and Rafter, and Laths; next he lays Morter, then is the Figure of that House in Morter, then he lays Bricks or Stones, then there is the Figure of the House in Stone and Brick, then it is Plaistered within in the inside, then there is the Figure of the House in Plaister, if it be Painted, then there is the Figure of the House in Painting; So likewise in Animal, as a Man, first there is the Figure of a man in Bones, as we may see in an Anatomy, then there is the Figure of a man in Flesh, thirdly, there is the Figure of a man in the Skin; then there are many different Figures belonging to one and the same Figure, as every several Part of an Animal is of a different Figure, and every Part hath different Figures belonging thereunto; as Man for Example, to the Hand there is the Palm, the Back, the Fingers, the Nails, yet all makes

makes but one Hand. So the Head, there is the Brain, the *Pia mater*; the *Dura mater*, the Scul, the Nose, the Eyes, the Fore-head, the Ears, the Mouth, the Lips, the Tongue, the Chin, yet all this is but a Head; Likewise the Head, the Neck, the Breast, the Arms, the Hands, the Back, the Hips, the Bowels, the Thighs, the Legs, the Feet, besides the Bones, the Nerves, the Muscles, the Veins, the Arteries, the Heart, the Liver, the Lights, the Midrif, the Bladder, the Kidnies, the Guts, the Stomack, the Brain, the Marrow, the Blood, the Flesh, the Skin, yet all these Differently figured Parts make but the Figure of one Man. So for Vegetables, the Root, the Sap, the Pith, the Bole, the Bark, the Branches make but the Figure of one Tree. Likewise every Figure is Different, this Man is not like that Man, this Tree is not like that Tree, for some Trees are Larger or Less, Higher or Lower, more or less Branched, Crooked or Straighter; so in Animals, some are of one Shape, some of another, as Men, Some are Slender and Tall, some Little and Low, some Big and Tall, others Thick and Low, some High-nos'd, some Flat-nos'd, some Thick, some Thin Lip'd, some ^{have} High Fore-heads, some Low, some Broad, some Narrow, and numbers of like Examples may be given, not only to Man, but all other Animal Creatures according to their Shapes, that every Particular in one and the same Kind hath Different Figures, yet every particular Kind hath but one and the same Motion,

tion, which properly and naturally belongs to that Kind of Figure, as a Horse to Gallop, to Amble, to Trot, to Run, to Leap, to Kick, and the like; and Man to Lift, to Carry, to Walk, to Run, to Pitch, to Dig, to Shoot, to Chop, to pull Back, to thrust Forward; Likewise every particular Part in one and the same Kind, hath but one and the same kind of Motions, Local or otherwise, and every particular Bird hath but one and the same kind of Motion in their Flights, and in their Feeding; So Beasts, every particular Kind hath but one and the same manner of Motion and Feeding; So likewise all Mankind hath ~~after~~ one and the same kind of Motions, belonging naturally to every particular Part of his Body, the only Difference is in the Strength, or Weakness, their Restraints, or Facilities, but not Different in manner of the Movings. But to return to the Figures, I say there are Different Figures belonging to one and the same Kind of Figure, but the Ground or Fundamental Figures in every particular Figure are three. As for Example, a Tree at first is the Figure of Wood, the second is such a sort of Wood, as a Cedar, an Oak, an Elm, an Ash, and the like; also of such a nature of Wood, some fitter to Burn, than to Build, others that will Grow but on such or such Soils, others to Last longer, or Dye sooner, or Bud and Bear in such and such Seasons, some to bear Fruit, others to bear none. Likewise for Animals, the first Figure is to be an Animal, that is, to have a Local figure,

figure ; the second Figure is to be Flesh , not Wood ; the third is to be such a Kind of flesh as Man's flesh , not Bear's flesh , or Dog's flesh , or Horse flesh, or Cow's flesh ; and more Examples may be given than I am able to repeat , or my Book to infold ; but Animals and Vegetables have more Different figures belonging to every Particular figure or Kind, than Minerals, especially Metalls, which are, as it were , composed of one Piece.

CHAP. XVII.

*Of the Gloomy Figures, and Figures of Parts,
and of One Piece.*

AIr is not a Shining Body of it self, but as the Lines of Light shine upon it; it is Smooth, and may be a Glossie Body, but not a Shining; for though there are Infinite several sorts of Brightness and Shining, yet two I will describe. As there are two sorts of Shining figures, some that Cast forth Beams of Light, as bright shining Fire , and likewise from some sorts of Stones , Bones and Wood , so there are some sorts of Figures that onely Retain a bright shining Quality in themselves , but Cast forth no Beams therefrom, or else so weak and small, as not useful to our Sight, but what is represented to us thereon by other Lights ; this sort is Water , Metall , and vulgar Stones, and perchance Air may have such a Shining Body. These Shining Bodies, as

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Water, or Metall, or the like, are not perceived in the Dark, but when Light is cast thereon, we do not onely perceive the Light, but their own natural Shining Quality by that Light. Again, some Figures have onely a Gloss, which is a faint Shining, like as a feigned Light, or an eclipsed Shadow, as all the Pores Vegetables and Animals Skins have; and some Figures are Glossie through the Thinness or Transparentnes, not in the Nature, for by reason the Figure is Thin and Transparent, the Light shining, though Transparent, doth not onely shew the Light, but the Light gives those Figures a Gloss. Some Figures, as I have said, are, as it were, all of One Piece, as some sorts of Earth, Water, Vapour and Air, which may be metamorphosed by Contracting and Dilatation; Others of Divers pieces and severall works, as Vegetables and Animals, wherein are Joynts and Knots, some parts Soft, and some Liquid, some Firm, some Hard, every Part having a severall Figure, which Varieties and Contrarieties serve to the Consistence and Preservation but of one Perfect figure; but Animals of all other Figures have the most Variety of Works, and severall Motions.

CHAP. XVIII.

*Of Round and Square Figures, and
their Motions.*

OF all Figures a Flat Square Figure is most unapt to move Exteriously, one Reason is, that being Flat, the Matter is Press'd, and more Dens'd; the other Reason is, that being just Four-square, it is equally Poised at every Corner or Point of the Square, which makes an even Weight or Measure, which makes that Figure steady; the third and last Reason is, that Circumference is Uneven, having Variety of parts, as Lines and Points, which Points hinder the Motion of the Lines, and the Lines hinder the Motion of the Points; and as a Flat Square figure is the most unapt to move Exteriously, so a Round Smooth figure is the most apt and ready to move Exteriously, by reason the Circumferenced lines are Smooth, and without Parts, or Inequalities, being all in one Round piece, without Parts, or Different figures, or Inequalities, as Square figures have with Lines and Points, which makes the Circumference uneven, which Uneven, as Unequal Circumference, causes Unequal and Untimely motions; besides, the Corner figures, which are Pointed figures, are apt to fasten or stay on other Bodies, which retards Motion, whereas a Smooth Round figure moves without Retards,

I say, according to its own Proper figure, but it may be retarded by other Figures or Creatures; besides, the Round figure hath no basis or bottom to stand or rest on, being all alike, or of one Piece without Ends, so as it moves all as one Proper and Intire figure, having not any Points to fix or stick to other Bodies. This is the Reason Snow falls Slower than Rain or Hail, because Snow is Triangular, which is pointed, and Rain and Hail is Round in the Exterior as well as Interior parts, which makes it fall more Forcibly, whereas Snow falls more Retardedly or Slowly, being more Exteriously Uneven; But as for Descensions, as some Bodies descend Slowly or Quickly by the cause of their Exterior figures, as being Square, Triangular, or Round, or according to their Density or Rarity, so according to their Interior or Exterior motions; for some Outward Shapes will cause some Creatures to be Agiler or Slower, in despite of their Inward or Interior Forms, Motions, and Natures; and some Interior Shapes, Natures, and Motions will cause some Creatures or Shapes to be Slower or Agiler in despite of their Exterior Figures, Shapes, or Motions.

CHAP. XIX.

Of Heavy and Light Bodies.

THere are four Principal causes, which make the Effect of Heavy or Weight, as
first,

first, Bulk or Quantity of Body; next, the Grossness of the Substance of a Body; thirdly, Density; and fourthly, the Form or Figure of the Body; Also there are four Principal causes that make Lightness, as Little Quantity of Substance, Purity of Substance, Rarity of Substance, and the Form or Figure of the Substance or Body.

CHAP. XX.

Of Bodies that are apt to Ascend or Descend.

There are so many several Causes that make some Bodies apt to Ascend, and others to Descend, as I can neither Express nor am capable to Know or Understand; but thus much I have observed, that the Cause is as much if not more in the outward Form or Shape of the Body, as in the Nature of the Substance, for though all Pure and Rare bodies are Lighter than Gross and Dense bodies, yet some Bodies that are Light or of Little weight, are apt to Descend, and others as Light or Little of weight, are apt to Ascend; as for Example, a flake of Snow is as Light as a downy Feather, yet the Snow is apt to Fall, and the Feather is apt to Rise; as for the Cause or Reason, I can perceive none but the outward Form or Shape, for the Feather being more Porous in the Exterior Figure, although more Dense in the Interior Substance than Snow, makes it to have a more Exterior Lightness, and so an aptness to Ascend; Also Dust that is Hard
and

and Dense, is apt to Ascend, and Water that is Porous or Rare, is apt to Descend; the reason is, the Interior Parts are more apt to Divide into Small Parts, being of a Dry and Crumbling Nature, and the Parts in the Separating fly up like Atoms, whereas the Exterior Part of Water is Wet, and so Glutenous, and Cleaving, which causes the several Parts to stick, or Unite closer, and in a greater Bulk or Body, for all Moist bodies are as apt to Unite as to Divide, if not apter, whereas very Dry bodies are apt to Divide, but not to Unite, but this outward Driness in Dust, and outward Wetness in Water, is the cause that the one becomes more Heavy by Bulk or Quantity, although more Light by Nature or Quality, the other more Light by Smallness, although more Heavy by Nature or Quality, for certainly Dense bodies in Nature should be more Heavy than Rare; But this is to be observed, that Wet Rare bodies are more Heavy than some Dry Dense bodies, much more are Wet Rare bodies Heavier than Dry Rare bodies, but one and the same Substance will be Lighter when it is Dry than when it is Wet; as for Experience, a large flake of Snow falls down much Lighter, and so Slower, than a small drop of Water, yet the Interior nature of Snow and Water is one and the same, for Snow is but congealed or densed Water. Now the cause that makes a flake of Snow descend lighter than a drop of Water, is two-fold, the one, that Densd water as Snow is Exteriorly Drier than water Undensd, which makes it Exteriorly
Lighter;

Lighter ; the other cause is, that Snow seems to be Exteriorly of a Triangular Figure, although the Interior Figure is Circular, as being Water, for Water that is not Densd or Contracted into Snow, is Circular, both Exteriorly and Interiorly, which Figure seems to my reason to be more Poised and Heavy than the Triangular, which seems to be more Light and Wavering than a Circular Figure ; But to draw towards an end of this Chapter, Ascending and Descending is as often caused by the Exterior Figure or Shape of a Body, as by the Nature and Quality of the Substance ; and to give a more Gross and Visible Example, a Bird, which is of a much greater Bulk, and hath a much Heavier Body than a Worm, yet by the help of the Exterior Shape it is much Agiler than a Worm, and can Fly high up into the Air, when as a Worm for want of such an Exterior Figure is forced to creep on the Ground ; the truth is, that all Natural Exterior Motions and Actions are according to the Exterior Shapes of every Creature or Substance.

CHAP. XXI.

*Why Heavy Bodies Descend more forcibly
than Light Bodies Ascend.*

IT is to be observed, that Weighty Bodies Descend with more force than Light Bodies Ascend ; the reason in my Opinion is, that Motion is more Free and Agiler in Descent, than
Ascend ;

Ascent ; for as one Weight upon an other makes more Weight, so one Motion upon an other makes more Force , and Motion being Quicker in Descents than Ascents, doubles the Strength, Weight, and Force of Descending Bodies ; an other reason in my Opinion is, that the Earth is more apt and hath more force to attract Heavy bodies, than the Sun or the other Planets to attract Light bodies; besides, there is a Sympathy between Bodies of a like Nature, as Light bodies to Light bodies, and Heavy bodies to Heavy bodies , and the more Gross a Body is, the Stronger are the Interior and Exterior motions , I cannot say they are the most Agil, but the most Forcible ; and to prove that Motion is freer in Descents than in Ascents, is, that a Man or any other Creature can more easily Descend or go down a Hill or Mount, than Ascend or go up a Hill or Mount , although the Motions of the Feet, Hands, and whole Body be one and the same ; also a Bird Descends with a more forcible Flight than it Ascends , for the Weight of the Body hinders the Ascent of the Body , and the Weight of the Body helps the Descent of the Body , and there is not any Thing or Body, that hath not some Weight, even the Lightest , as Feathers, Dust, Vapours, or any thing else, were it an Atom, but hath some Weight, and if all Bodies have Weight, even the Rarest, and Smallest, and that Weight is more apt to Descend than Ascend , then it must necessarily follow, that Heavy bodies must
more

more forcibly Descend than Light bodies Ascend.

CHAP. XXII.

The Observations of Human Sense and Reason.

HUMAN Sense and Reason hath observed, that the Elemental Worlds or Globes have Spherical figures or bodies, and that their Exterior Motion is according to their Exterior shapes, as well as to their Interior motions and creations; and it is to be observed, that all Exterior motions are Sympathetical to their Exterior shapes; but mistake me not, for I mean, their Exterior motions and Exterior shapes are according to their Interior natures, when as they move of Themselves, for when they are moved by other Creatures or Bodies, they are moved by Force, and not by their own Natural motions or shapes, but by other more Powerful motions or shapes; but although Human Sense and Reason hath observed the Different Kinds and Sorts of Creatures, as also the Different Changes and Motions of Several Creatures, yet Human sense and reason hath not, and, I doubt, cannot observe and find out the Causes and Reasons, or Designes, why such Kinds or Sorts of such Creatures as there are, and not other Kind or Sorts of Creatures, as also, why such or such Shapes, and why such or such Motions, and not others, but onely this Answer

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from Human sense and reason can be made, that there cannot be a Part, but must have a Figure, and therefore every Creature must be figured, and what Figures soever were made in Infinite matter, Human sense and reason may make the same Question or Observation; also Human sense and reason may Imagine or Believe, that there may be Infinite Several shapes in Infinite parts, and Infinite Several motions in Infinite shapes, which are not subject to Human sense, if not to Human reasons, but I believe to both; yet this is to be observed by Human sense and reason, that there is a Continuance in the Several kind and Several Sorts of Animal, Vegetable, Mineral, and Elemental Creatures; but, as I said, that Human sense and reason hath not yet observed or perceived, why each Kind or Sort of Creatures should have such Shapes and Bodies as they have, as whether the Animate matter and motions are bound or tied to the several Degrees or Temperaments of Unanimate matter, as to make such Particular kinds and Particular sorts in Particular kinds, and Particular creatures in Particular sorts; or whether the Animate matter and motions work and create such Distinct shapes in Distinct kinds, and Distinct sorts amongst Distinct creatures by and in their Infinite Wisdom, Prudence and Ingenuity, in Infinite parts, in Infinite matter; for Infinite matter and motion lives in Infinite parts, and Infinite parts live in Infinite matter and motion, but that part of Infinite matter and motion

motion that is in Human creatures is not capable to Know or Conceive the Infinite Wisdom, or Power, but whether it be capable to Know or Conceive those several Causes and Effects, or hath not observed according to that Degree of Extension of Observations so much as Human sense and reason may extend, as to perceive the Cause or Reason why the Elemental worlds are Spherical, why Animals are Local, and not Vegetables, and why and for what reason some Creatures are made of an Upright shape, as Men, and some so Bending and Stooping, as Beast; also why and for what reason some Creatures have such Shapes, which is onely fit and proper for such Qualities and Faculties, and others not; as for Example, what Reason, or Cause, or Design is in Infinite matter and motion, that Birds are onely capable to Flie, and not Men or Beast; the Answer will be, it is their Shape causeth them to Flie, and Men and Beast to other Actions that Birds are not capable of; but I ask, Why and for what reason have Birds their Shapes, and Beast their Shapes, and Men their Shapes, and Fish their Shapes, and Trees their Shapes, and Flowers their Shapes, and Fruits their Shapes, and Elements their Shapes, and not other kind of Shapes? But this Question of the Designs, Causes and Reasons of these Differences, Human sense and reason hath not extended so far as to give or declare the Reasons or Causes, I will not say, but that Human sense and reason may guess at them, and may

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probably and happily light or chance on the Right and Truth of some of them, but Human sense and reason can never attain to a Perfect knowledge, because Infinite is not capable of Perfection either in Knowledge or Power; but to conclude this Chapter, Human sense and reason may associate in Human parts and creatures, as many Men joyn, as in one Body and Mind, as with all their Industry of their Sense and Reasons, so as the several Observations of many Men in many Ages, may find out some Truths, Causes and Effects, so that many several Observations, and many several Experiments in many Ages, may make or produce several Knowledges and Wisdoms, as several Kinds or Sorts of Knowledges, Prudence, or VVisdom, or Ingenuity and Invention; all which Several or Particular Knowledges, either Sensitive, or Rational, or both, are produced like as Several Generations of Several Creatures.

CHAP. XXIII.*Of Change.*

THe Change of Motion in several Figures makes all the Change and Difference amongst several Creatures, as their Proprieties, Faculties, Effects, Sympathies, Antipathies, Creations, Productions, Times, Seasons, Kinds, Sorts, Particularities, Decays, Dissolutions, Transmigrations, Metamorphosings, and the like.

CHAP.

CHAP. XXIV.

*Of the Variety of one and the same Sort of
Shapes and Motions.*

SOME Shapes have Power over others, and some Motions have Power over other Motions, and some Degrees or Temperaments of Matter have Power over other Degrees or Temperaments of Matter; as for Example, some Liquid Substance hath Power over other Liquid Matter or Substance, as Liquid Milk will quench Liquid Vitriol, and Liquid Oyl will quench Liquid Aqua-fortis; and some sorts of Dry cold will Over-power some sorts of Dry heat, and some sorts of Dry heat will Over-power some sorts of Dry cold, and some sorts of Moist cold will Over-come some sorts of Moist heat, and some sorts of Moist heat will Over-come some sorts of Moist cold, and so some sorts of Moistures will Over-come some sorts of Driness, and some sorts of Driness will Over-power some sorts of Moistures, and some sorts of Heats, and some sorts of Cold, and some sorts of Cold, and some sorts of Heat, will Over-come each other; also some Contracted motions will Over-power other Contracted motions, and some sorts of Attractive motions will Over-power other sorts of Attractive motions, and so for Retentive, Digestive, Dilatative, Expulsive, and the like. But there is such Variety in Infinite

finite matter and motions, as such a Finite Creature as I, cannot express.

CHAP. XXV.

*The Different Degrees of one and the same
Kind or Sort of Degrees of Matter
and Changes of Motions.*

Density is made by Contracting motions, and Weight by Attracting motions, and Rarity is made by Dilatating motions, and Lightness by Expulsive motions, or at least by such Dilatating motions as are next Degree to Expulsive motions; but there are several Kinds or Sorts of Densified bodies, and several sorts of Weighty bodies, and several kinds and sorts of Rare bodies, and several sorts and kinds of Light bodies; for as there are several Degrees and Changes of Motions, so there are several Degrees in Mixtures and Temperaments of Matter or Substances; for as there are several sorts of Contractions, Attractions, Retentions, Digestions, Dilatations, and Expulsions, so there are several sorts of Densities, Rarity, Weightiness, and Lightness; and as there are several Kinds and Sorts, so there are several Degrees, as more Densified, and less Densified, more Rare, and less Rare, the same may be said in Heaviness, Lightness, &c. and that sort of Contraction, and that sort of Retention, nor that sort of Density, and that sort of Weightiness, is not in the Creation

tion or in the Propriety of ordinary Earth, as in the Creation or Propriety of Metal ; nor those sorts of Contractions, Retentions, and Attractions ; nor those sorts of Densities that are in Metal, are not in Stone, neither is there the same sorts of Density, or Weightiness, or Motions, in one Part of Earth as in another, nor in one sort of Metal as in another, nor in one sort of Stones as in another ; as for Example, there is great difference both in the Density and Weight between Gold and Lead, and so the like for all the rest ; but some Densities and Motions between some Stones and Metals, are more near or alike to each other, than between Metals and Metals, and Stones and Stones ; as for Example, Gold and Diamonds are more near the Nature of each other, than Lead to Gold, or mouldring Stones to Diamonds ; and as there are different degrees of Dense and Weighty bodies, so in Rare and Light bodies ; and as there is difference of Contracting, Attracting, and Retentive motions, so there is difference of Digestive motions, and Dilatative motions, and Expulsive motions ; also those Rarities or Lightness, that are in Feathers, and Hairs, and Wool, are not of like Degrees, and millions of Examples might be given ; but these are enough to inform my Readers. But to conclude, although there be prime Kinds and Sorts of Degrees, Motions, and Figures, yet there are Infinite several Particulars in each Kind and Sort.

CHAP. XXVI.

Of Transmutations.

TRansmutations are not Metamorphoses, for to metamorphose is to change the Shape and Interior form, but not the Intellect, which cannot be without a new Creation, nor then, but so as partly the Intellect changes with the Shape and Interior form, but all Bodies are in the way of Transmutations perpetually; as for Example, the nourishing Food that is received into the Stomack, is changed into Chylus, Chylus into Blood, Blood into Flesh, Flesh into Fat, and some of the Chylus turned into Humours, as Choler, Flegm, and Melancholy, some into Excrement, which Transmigrates through the Body into Dung, Dung into Earth, Earth into Vegetables, Vegetables into Animals again, by the way of Food, and likewise Animals into Animals, and Vegetables into Vegetables, and so likewise the Elements. But indeed all Creatures are Created by the way of Transmutation; as for Example, Hens or other Fouls lay Eggs, and then sit on them, from whence a Nourishing heat is Transmigrated from the Hen into the Eggs, which turns into a kind of a Chylus, then into Blood, Blood into Flesh, Flesh into Sinews, Sinews into Bones, and some into Veins, Arteries, Brains, and the like. For Transmutation is only the Mixing, Sifting, Searching, Tempering
faculty

faculty of Animate matter, which is Self motion, and Motion is the onely Transmuter, otherwise Infinite matter would lie Idle eternally, though I cannot well conceive how Infinite can be without Motion, but howsoever, we perceive so much as there are proper Motions, and Mixtures of Matter belonging to every particular Figure; and though Figures do produce Figures, yet Figures do not order the Creation, for it is not the Figures that Create, but Creation that produces by Figures, which Creation is Motion, which Motion is Animate matter, which Matter Creates and Dissolves by the way of Transmutation, all Figures Dissolving to Create, and Creates to Dissolve, but Dissolving and Creation, which is that we call Life and Death, hath onely a reference to the Figures, but not of the nature of the Matter.

CHAP. XXVII.

Of Metamorphosing of Animals and Vegetables.

IT is impossible for Animals and Vegetables to be Metamorphosed without a Creation, as to transform a Man into a Tree, or a Tree into a Man, or a Man into the form of a Beast, as to turn Mans-flesh into Horse-flesh, or Horse-flesh into Mans-flesh, or to turn one Man's flesh into another Man's flesh, or an Oak into a Cypress, or a Cypress into an Oak, and so the like in

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all Vegetables and Animals, thus Transforming the Interior forms, or rather Changing the Interior forms like Garments, putting one and another Interior form upon one and the same Intellect nature, which is impossible, by reason the Interior forms and Intellect natures are Inseparable, so that Destroying the one Destroys the other, and a Change cannot be made of either without the Dissolution of the whole, no more then a Man can change the whole Building without pulling down the House; for though they may make some Alterations in the outward Shape, as to add something More, or take away and make all Less, or Thicker or Thinner, or Higher or Lower; but cannot alter the Interior form, which is the Foundation, but if they pull it down, the same Materials may be put into another Form, or into the same Form they were at first, but it must first be New built again before it can have those Forms, and they must stay the time of Building; So for every Vegetable Creature, and Animal Creature, they cannot be Metamorphosed, by reason Metamorphosing is to change their Forms, without a new Creation, and they cannot change their Forms without a Dissolution, and then Created a new, by reason the Intellect and the Interior form is as one Body, and not to be separated, for the Interior forms of those Creatures, and the Intellects, depend upon one another, and without the one the other cannot be. The Intellect and the Interior form may be divided together
into

into parts, but not Separated apart; though the several sorts of one and the same Kind, as Animal kind, may be mixed in their Creations, as to be some part a Beast, some part a Dog, or the like, and part a Man, and some Creature partly a Bird and partly a Beast, or partly a Beast and partly a Fish, yet the Intellect is mix'd with the Interior Form, and the Exterior shape with the Interior form; the like in Vegetables; and if the Interior forms and Intellects of each Sort, nay, of each Creature, cannot be changed, much less of each Kind; thus the Intellect natures and Interior forms of it can never be without a new Creation; and as for the Exterior shapes of Animals they may be Altered, but not Changed, for Animals, of all other Creatures, have their Shapes most United to the Interior form and Intellect nature of any other Creature in Nature. But I desire my Readers not to mistake me for want of Terms and Words of Art, for by the Interior or Intellect nature, I mean such Properties, Disposition, Constitution, Capacity, and the like, that makes it such a Creature. The Interior form is such a Substance, and such a Sort, as Flesh, or Fish, or Wood, or Metal, and not onely so, but such a sort of Flesh, as Mans-flesh, Horse-flesh, Dogs-flesh, and the like; So the Wood of Oak, the Wood of Maple, the Wood of Ash, and the like; so the Gold metall, the Iron metall, and the like; for Horse-flesh is not Mans-flesh, nor the Wood of Oak the Wood of Ash, nor the Metall of Gold the

Metall of Iron; and by the Exterior form I mean the Outward-shape.

CHAP. XXVIII.

*The Metamorphosing of the Exterior forms
of some Figures.*

ALL Figures that are of an United piece, as Water and Fire are, and not in Parts, as not having Several parts of Different natures, as Animals and Vegetables have, may be Metamorphosed out of one Form into another, and Re-change into the Original form again, yet it is onely their Exterior form, not their Interior nature; as for Example, Water that is frozen, or turn'd to Hail, or Snow, the Exterior is onely Metamorphosed, for the Interior nature, which is the Circular line, is Unaltered; likewise when the Circular line is extenuated into Aire, the Interior circle-line is not Changed, but when the Interior nature is Dissolv'd, and the Matter it was composed of turned into other Figures. Likewise Metalls, when the Interior nature is changed, it cannot be re-changed again without a New creation; for if we can turn one Metall into another, yet it is not by the way of Metamorphosing, but Transmutation, otherwise we may say, we can turn Animals and Vegetables into Water, when we distill them; but the Magick of Chimistry shall not return them to their Interior nature, nor Exterior

Exterior shape. For although their desires make them believe it possible to be done, yet they must know Subtracting is not Metamorphosing, but rather of the two, Transmutation, being one of the •chiefest Requisites of Transmutation. And as for those Creatures that are composed of Parts of Different natures, as I have said, their Exterior form cannot be Metamorphosed, because those Motions that Metamorphose one Part, cannot Metamorphose an other. And though every Part is Different, yet they generally Unite to the consistence of the whole Figure, whereby the several Transforming motions on the several Parts would make such a Confusion, as upon necessity must Dissolve the Intellect nature, and Interior form of that particular Figure; thus striving to Alter would Destroy.

CHAP. XXIX.

Of Fix'd and Loose Elements.

ALL Elements are Created as other kind of Creatures are, as Animals, Vegetables, and Minerals, as to be Produced as one Creature from others, yet in the Production of all Creatures there are several Wayes, Manners, Orders, Times, Degrees, and Motions, which are Different in their Productions, and as in their Productions, so in their Dissolutions; for some last not a Day, others thousands of Years; but as
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for Elements, those that are Elemental Worlds as the Sun, and all the Planets, as also the Fix'd Stars, cannot be Metamorphos'd no more than Animals or Vegetables that are of many Parts but Loose Elements as are between the Celestial and Terrestrial Worlds may be Metamorphos'd, that is, they may Change their Exterior forms, and for their time of Metamorphosing may Change or Alter their Exterior Properties.

CHAP. XXX.*Of Loose Humors and Elements.*

AS for particular Motions that make Loose Humors, or Loose particular Elements, which Humors are rather the Excremental Parts, than the Substantial Parts, which Substantial Parts are the Frame, Form, Consistence, Nature and Entity of the whole Body of the Creature, which Frame, Form, Consistence, Nature and Entity is not to be altered without a Dissolution, but those Loose and Excremental Parts Change and Alter in one and the same Body; as for Example, in the Body of man inhabit four Elemental Humors, as Phlegm, Choler, Melancholy, and Blood, which Change and Rechange, Increase and Decrease, as Phlegm changes into Choler, Choler into Melancholy, and Melancholy, Choler, and Phlegm into Blood, and Blood into all the former Particulars; also
Phlegm

Phlegm changes into Water, Melancholy into an Earthly Substance, and Choler into Fire; also Phlegm changes into Salt, Choler into Oyl, and Melancholy into Vitriol; and all these Humors, as Flegm, Choler, Melancholy, and Blood change into Flesh, and all the Loose Humors change into Dung, which manures the Body, and then cast forth the Unusefull parts into Excrements to manure other Creatures; the like in the Elemental Worlds, the Loose parts help not only to manure their own Bodies, but each Globe helps to manure each other, which causes Procreations and Dissolutions, as Increase and Decrease of Loose parts; But to conclude this Chapter, as Animal bodies, as also Vegetables and Mineral bodies have Loose parts, so Elemental Globes have Loose parts in their Substantial bodies, but these Loose parts are so necessary, as they could not well Subsist without them, no more than one Creature can Subsist without an other, for all Creatures are not only Produced but Nourished by each other, and must of necessity be so, by reason the Only matter is Infinite, and the Parts in Only matter are Infinite, as being divided into Infinite Creatures.

CHAP. XXXI.

The Change of Motions.

MOtion doth Alter and Change in one and the same Creature or Figure, for a Young man appears not like as an Old man, nor an Old man as a Young man, nor a man when he is Sick, appears not as when he is Well, nor a man when he is Cold, appears not as when he is Hot, also a man when he is Sad or Melancholy, appears not as when he is Merry; and as the man alters in Countenance, Complexion, Temper, Humour, Sickness, Health, Passions, Affection in Mind or Body, Motion Changes.

CHAP. XXXII.

Of Lines.

IT is to be observed, that all Creatures that are composed of Lines, are Soft, Smooth, Shining, whether they be Triangular lines, Square lines, Round lines, or Parallel lines, but the Smaller, Straighter, and Smoother the Lines are, the Brighter, and Finer, and Softer, are those Creatures; the reason is, that Lines are the evenest Rules and justest Measures, having no divided Parts, but yet according to the Roughness or ^{Smooth} Ruggedness of the Lines are the Creatures softer. Then it is to be observed, that all Works

or harder

Works of Contractions and Retentions are Stronger, and more Lasting, than those Figures that are more Light and Porous or Extenuating. Thirdly, it is to be observed, that the Animate matter, which works upon the Light, and Thin part of Dull matter, is more Agil, and Nimble than that which works upon the Thick and Solid matter, unless the strength of the Motions be not Above, or at least Equal to the Solidity of the matter. Also it is to be observed, they can make Solid Figures of Light and Thin matter, by their close and curious Joynings, Injections, and Mixtures, and Porous and Light Figures of Solid matter, by their Dividings and Spreadings; but though the Animate matter can Contract and Dilate the Thick or Thin, Light or Heavy, Fluid or Soft, yet it can not Alter the Nature, or Degrees of the Inanimate part of matter, neither can the Animate matter make it self Weaker or Stronger than by nature it is, for the Entity of Only matter cannot be Changed; but though the nature cannot be Altered of the Inanimate part of matter, yet it may be Cut and Carved, and Joyned and Dispersed into several Figures, so the Animate matter, although the nature cannot be Altered, as to make each Degree Weaker or Stronger, yet they may move Swifter or Slower, according as the Inanimate part of matter is, they Work on, or according as the Curiosity of the Figure requires; and as I have said before, there be Infinite degrees of the Inanimate part of matter, as Solid and Fluid,

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Thinner

Thinner and Thicker, Lighter and Heavier, Harder and Softer; and Infinite degrees of Animate matter, as Stronger and Weaker, Swifter and Slower; and though I have said, that the Animate matter is the Acutest part of Only matter, yet I do not mean the Thin Insipid matter, as I may call it for distinction-sake, for there is no Insipid in Infinite and Eternal matter, though there be in Inanimate Immoveing matter, but the Animate matter is the Infinite extract of the Entity of Infinite matter, it is the Quintessence of Nature.

CHAP. XXXIII.

Of Circles.

A Circle is a Round figure without Ends, having a Circumference and a Centre, and the Figure of a Circle may more aptly alter the Exterior form than any other Figure can; for a Circle-line may be Contracted many several ways, and after divers forms or fashions, but it cannot be Dilated but after one manner of way, which is to Dilatate, and so to enlarge the Circumference, and the Parts from the Centre by an equal Dilatation to the Circumference; for if a Circle be extended in part, and not in whole, as it Extends or Dilates one way, it Contracts in another way, whereas a Parallel line may be Dilated or Extended in Parts, without a General alteration, but a Circle-line cannot, for

for as one part stretches out, another part draws in; but, to conclude, a Circle-figure may be Dilated and Contracted, and be Changed into many several Exterior figures or forms, and yet keep the Interior figure or form; also a Circle may move Interiorly, as also Exteriorly several ways, as to move from the Centre to the Circumference, and from the Circumference to the Centre; as also to move Circle-ways according to the Figure, as to move Round.

CHAP. XXXIV.

Of the Extension and Contraction of Circle-figures, or Circle-lines.

THE Nature of Extensions and Dilatations strives or indeavours to get Space, Ground, or Compass, as also to Smooth, Plain, or Level, the Substance or Matter those Motions work on, and with, but the Nature of Contracting motions indeavours or labours to cast or thrust out Space, Place, Ground or Compass, labouring to draw and croud Substance Matter or Parts close together, and this is the reason that Circle-lines or Figures may be Contracted many several Ways, Forms or Figures, because Contraction flings out the Compass, and onely makes use of the Line or Circumferent circle, drawing and laying the Line into millions of several Works or Figures, without breaking or dividing the Exterior form,

which is the Circle ; and this is the reason, that when the Contractions are over-powered by Dilatations , and that the Circle extends to the full Compass , it returns to its Original form , which is a Round circle, without any alteration ; and thus may a Circle-figure or Line Exteriously alter several ways by Contractions several times , and yet keep the Interior form, figure or nature ; also Circle-lines or Figures may be Exteriously altered by Mixt Exterior motions , as for Example , when a Circle-line should be wound about a Round staff , or such like thing , the winding about the Pole or Staff is the Motion of Contraction , at least one way , as when the Compass is turned Inward , as towards the Centre , yet by winding one Line above another is Extenuation, and millions the like Examples may be given. But to draw towards a conclusion of this Chapter , a Circle may be Drawn or Contracted into a Square figure , and into a Triangular figure , and into a Cube figure, and into a Parallel figure , the Parallel is made by drawing the Circle long-ways ; but all those several Figures , and many other Figures ; made partly of each Figure without dividing the Circle ; also Circle-lines may be very Different , and yet not different in the Compass or Circle , as some Circles may be Broad , some Narrow , some Round , some Flat , some Twisted , some Smooth , some Rough, some Edged, some Pointed, for though the Compass must be evenly Round, yet the
Matter

Matter of the Circle may be uneven ; and though the Figure of a Circle isto be but one intire Figure in and of it self , yet the Substance or Matter of the Circle may be different; but as for the Figure of a Circle, some may say, that a Circle is not a Circle, when by several motions it is made Square or Triangular ; I answer, that it is a Circle squared, but not a Circle broken; for if the Circle be whole , as not broken or divided , the Interior nature is not Dissolved or Destroyed , howsoever the Exterior figure or form is changed or altered , it is a Natural or Perfect circle still , although it Exteriorly should be put into a Mathematical Square or other Figure. But, to conclude, (for I have digress'd) it is to be observed , that all those Figures that are by Nature made of one Piece , without Distinct parts and Several Tempered substances , their Exterior forms or shapes may be changed and re-changed without any alteration of their Interior proprieties , forms or natures , whereas those Creatures or Figures , that are made into several Distinct parts , and composed of several Tempered substances or matter , could not be so changed without an Interior Destruction, besides the alteration of Different parts and Different composures or temperaments , would cause a Confusion of Several motions in their Transformations.



PHILOSOPHY.

PART V.

CHAP. I.

Of the four Worlds, of Fire, Air, Water, and Earth.

TO Human Sense and Reason, there seems a necessity of four several Kinds or several Sorts of Worlds, as a World of Fire, a World of Air, a World of Water, and a World of Earth; also there seems a necessity to have a sufficient Proportion of and in each World, for if there were not a World of Air, the World of Fire would go out, and if there were not a World of Water, the World of Earth would be insipid, besides the World of Fire would Burn and Consume it, and if there were not a World of Earth, there would not be solid Creatures nor a firm Mould, to Create solid Creatures in, for if there were not Solidity, Density.

Density, or Firmity, all Creatures would be subject to Dissolve, before they were perfectly made; And if there were not a World of Bright shining hot Burning Fire, the other VVorlds would want Exterior Heat and Light; I only mention four Worlds, but there may be many more, for any thing Sense and Reason can perceive to the contrary, but in my following Chapters I shall treat of the Creations of the Elements, and of their Actual motions.

CHAP. II.

Of Different Motions and Creatures.

ALL sorts of Extenuating motions make not Fluidity or Wet, but such a sort of Extenuation on such a Tempered or such a Degree of Inanimate matter, for some sorts make Porous, Spongy, Soft, Smooth bodies, and not Wet or Fluid; also some Extenuations make Light, other sorts of Extenuations make Heat, and so may be said for all other Sorts of Motions and Effects; as for Example, all Expulsive motions do not Burn, for there be Infinite several sorts of Expulsions, and Infinite several sorts of Attractions, Contractions, Retentions, Digestions, and Dilatations, which make Infinite Varieties, for there are several sorts of Colds, several sorts of Heats, several sorts of Droughts, several sorts of Moistures, several sorts of Waters, several sorts of Air, several sorts of Fire, several

several sorts of Light, several sorts of Colours, several sorts of Darkeness, several sorts of Vegetables, Minerals, Animals, and several Particularities; But, to conclude, there is so much Variety in every Kind and every Sort, and in one and the same Kind, and one and the same Sort, and in one and the same Creature, as it is impossible for any one Creature to describe the Infinite Varieties in Nature; But to make my Readers the better to Understand me, I will give an Example for the Variety of one sort of Motions, which is a Swimming motion; as for Example, a Fish Swims, a Swan Swims, a Dog Swims, a Man Swims, those Creatures do but act the Swimming motion, but yet the Swan Swims not like the Fish, nor the Fish like the Swan, neither doth the Fish or Swan Swim like the Dog, nor the Dog like the Fish or Swan, nor the Fish, Swan, or Dog, Swims like the Man, nor the Man like as those Creatures, for every one of those Creatures Swim after a different manner from each other, and different manner of wayes in each Creatures Swimming; the like Example may be given for Figures, as for Motions; as for Example, all Men are of one and the same sort of Figure, as man's Figure, yet not any two men are alike unless as a Wonder.

CHAP. III.

Of Moist Colds, and Moist Heats, of Dry Colds, and Dry Heats, and of Hot and Cold Motions in general.

Heat doth not make Drought, for there is a Temper of hot and moist, nor Cold doth not make Drought, for there is a Temper of cold and moist, neither doth Heat make Moisture, for there is a Temper of hot and dry, nor Cold doth not make Moisture, for there is a Temper of cold and dry, but when as the Motions of heat and the Motions of drought joyn, they cause hot and dry Effects, and when as the Motions of cold and the Motions of drought meet, they cause cold and dry Effects, and when as the Motions of heat and the Motions of moisture joyn, they cause hot and moist Effects, and when as the Cold motions and Moist motions joyn, they cause cold and moist Effects, but there is Infinite Variety in their several Effects, as also in the Motions, but those sorts of Motions, which produce Hot and Cold, intermix and press into every Creature, as to every Region, so these Motions work on the Earth, Water, and Air, and into Vegetables, Minerals, and Animals; also these sorts of Motions, that make Hot and Cold, change, and work some Attractive, some Contractive, some Retentive, some Digestive, some Dilative, and some Expulsive,

for of each Kind there are several sorts, as several sorts of Cold motions, and several of Hot motions, as several Cold contractions, Cold attractions, Cold retentions, Cold digestions, Cold dilatations, Cold expulsions; also there are several sorts of Hot contractions, Hot attractions, Hot retentions, Hot digestions, Hot dilatations, and Hot expulsions; but when as these sorts of Cold and Hot motions do Equal each others Power, they make an equal Temper between Hot and Cold.

CHAP. IV.

*Of the Motions of Cold and Hot, Drought
and Moisture.*

Cold and Hot are not made by Different kinds of Motions, or Several sorts of Motions, but after Different manners or ways of several sorts of Hot and Cold motions; as for Example, a Moist heat and a Moist cold are made by one Kind or Sort of Motion; as for some Motions to Draw Matter Outward, and to Press and Drive Matter Outward, or to Spread or Dilate Matter towards the Extreme parts, as from the Centre to the Circumference; and as all Moist heat or cold Inlarges or Dilates from the Centre to the Circumference, or towards the Extreme parts, so Dry heat or cold Drives, or Thrusts, or Pulls inward, as from the Circumference to a Centre, and Cold and Hot

Hot retentions Nip or Pinch Parts, or Fix or Press into Parts, which causes Numness and Stifness, or Unactiveness, and Cold and Hot expulsions Divide and Dissolve Parts, as when Parts are frozen or burnt asunder; for it is to be observed, the Effects of Hot and Cold are much alike, for very Sharp cold and great Burning heat pains Men equally, and Sharp coldness destroys several Creatures with as much Fury and Strength, as Hot Burning heat; neither can I perceive the Hot motions to be quicker than the Cold motions, for Water, to the quantity, shall Freez as soon or suddenly, as any Light matter, as Straw, or the like, shall Burn, take quantity for quantity, and Animals shall be as soon Frozen to death, as Burnt to death, and Cold hath as great a power at the Poles, as Heat hath in the Torrid Zone; As for Vegetables, they are oftener kill'd with Cold than Heat, and it is to be observed, that there is not any Thaw or Dissolving so suddenly as Frost, which half persuades me to believe, that the Motions of Cold, or Cold motions, are more Agil, than the Motions of Heat or Hot motions; but it is to be observed, that Hot and Cold motions do oftentimes Dispute for the Mastery, when sometimes the Hot motions get the Victory, and sometimes the Cold; but when there is an Amity between them, there is Temperature; Also it is to be observed, that some sorts of Hot motions will Dispute with other sorts of Hot motions, and some sorts of Cold motions with

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other

other sort of Cold motions, where sometimes one Sort, and then another Sort, gets the Victory, according to their Strength and Advantage.

CHAP. V.

Of Earth.

THe Creating motions that make the Natural Earth, are not so Agil, or that Matter Earth is made of, is not so Pure, as those Motions and that Matter that makes Water, Air, and Fire, neither do those Motions that created Earth, work so Curiously or Regularly in Earth, as in the other Elements; besides, the Creating motions of Earth move or work more Perturbed or Troubled, which is the cause that the Exterior figure of Earth is Rough, Gross and Dark; but all or most of the Solid earth's Creating motions, are Attractions, and Contractions and Retentions, which causes the Earth to be Thick, Heavy and Dense, as also to be of the Nature of a Load-stone, for as the Contractions and Retentions make Earth Solid, Dense, Thick, Gross and Heavy, so the Attractions make it Draw all things that it can Draw, which makes it Heavy, as also to be of the Nature of a Load-stone. But this is to be observed, that the Creating motions of all Creatures, and their Actual motions may be very different, for the Proprieties or Faculties of Creatures may be different from their Creations,

tings, but yet their Natural Faculties and Proprieties depend upon their Creatings, and their Creations produce those Faculties and Proprieties.

CHAP. VI.

Of Water.

THe Nature of Water is to be Rare, Fluid, Moist, Liquid and Wet, also to be Glutenous or Cleaving, also to be Smooth and Glassie, also to be apt to Divide and Unite; the Interior Dilatating motions are the cause of the Rarity and Fluidity, the cause of the Moistness, Liquidness and Wetness, by such Kinds or Sorts of Dilatations as extend in Circle-figures; the Glutenous propriety or faculty is caused by the Liquidness and VVetness, the Aptness to Divide and Unite is caused by the Rarity, Fluidity, and Glutenousness; the Exterior Smoothness and Glassiness is caused by the Interior figure, which are Circle-lines, and the Nature of being VVater is caused not onely by some Sorts of Dilatations, but such a Degree of Dilatations, and not onely by such Sorts and such a Degree, but in such a Figure as a Circle-figure; but yet it is to be observed, that there are many several sorts of VVater, as some VVaters are more Rare than others, and some more Light than others, and some Waters are Clearer than others, and some Waters are Salt, some Sharp, some Bitter,

Bitter, some Fresh or Sweet, and some have Cold effects, and some Hot, but these are not so much in the nature of VWater as by joyning and cohering with other Motions, Figures, and Temperaments, which are Dividable from the nature of the VWater; for Salt water may be made Fresh, and so may Vitriol water; as also that we call Cordial water, the Heat and Strength of Cordial water may be divided from the VWater, all which Chymists, and Apothecaries, and Physicians know well, viz. those Arts of dividing one Temperament from another, but the Interior nature of VWater cannot be divided in it Self without a total Destruction; But to conclude this Chapter, to Human sense and reason the Interior figure of VWater is a Circle-figure, and the Interior motion of VWater is Dilatating, as an equal Dilatation from the Centre to the Circumference, but the VWater-circle and the Water Dilatations are of a Middle nature or degree, as between two Extremes.

CHAP. VII.

*Of the Wetness of Water, and other Sorts
of Liquors.*

VWetness, which is the Interior nature of Water, is made by Dilatating motions, for all Droughts or Drinesses are made by Contracting motions, and all Moistures, Liquors, and Wets, by Dilatating motions; yet those

those Dilatating motions, as make Wet, must be such a sort of Dilatation as belongs to that Substance, as is named Wet, which are Circle-Extenuations or Dilatations, as to Dilatate in a smooth, equal Dilatation from the Centre of the Water-circle, to the Circumference of the Water-circle, which Water-circle is of a middle or mean Extension, and the Wetness of water is caused or made by a middle degree of Dilatation, for Dilatating motions may extend Water beyond the degree of Wet, or not Extend or Dilatate so far as the degree of Wet, for there is such a Degree, as only to make Moist or Liquid, and not so far as to make Wet, for though Moisture or Liquid is in the way to Wet, yet it is not Wet; also all that is Soft or Porous, is not Wet, nor Liquid, nor Flowing, as Hair, Feathers, Wool, and the like; nor all that is Extenuating, is not Wet, nor Liquid; as for Example, Light and Fire, and many other Examples may be given; but those Dilatations that make Water, which is to be Soft, Smooth, Moist, Liquid, and Wet, are by Circle-extenuations, and the Circle to be in such a degree of Compass, and such a degree of Dilatation, as to be in a middle or mean Degree; But there are many several sorts of Liquors and Wets, as in Fruits, Herbs, and the like; but the Interior nature of all sorts of Wets is of such degrees of Circles and Dilatations as Water is; but this is to be observed, that some things are Moist, but not Wet, and some things are Liquid, but not perfectly

perfectly Wet ; as for Example , dissolved Gums and dissolved Sugar may be said to be Liquid and not Wet , and Smoke may be said to be Liquid and not Wet , and Oyl is more Liquid than Wet ; nor all that is Fluid is not Liquid , as melted Metall , Flame , Light , and many things more , which I cannot express for Number ; also all that is Fluid , is not Liquid nor Wet . But to conclude , although all Wets are Liquid , yet all Liquids are not perfectly Wet , and although all Liquors are more or less Fluid , yet all that is Fluid , is not Liquid .

CHAP. VIII.

*Of the Interior Figure and Motions of Bright,
Shining, Hot, Burning Fire.*

OF all the Elements, the Interior Figure and Motion of this sort of Fire is the most difficult to Understand or Conceive , for by the Agilness or Activeness it seems to be in small divided Parts, by the Peircing and Wounding propriety or faculty , those small Parts seem to be Points, by the Exterior Bright Shining Light, it seems to be Composed of Lines , by the Interior and Exterior Dilatations , it seems to be a Rare Body, and how to joyn these Differences is difficult ; for I cannot imagine, how rare Points should be , for the Figure of a Point is a Contracted Body , as being a Point ; also a Line is a Continued Longitude, Figure or Body , but
Points

Points are small Parts, but not Lines; but I conceive that the Points are the Interior figure, and the Lines the Exterior figure, and so those small pointed Parts may joyn in Lines of Points, and may Joyn and Divide as often as they will, and never alter their Interior nature; also the Rare nature may be Exterior, and not Interior, as when a number of those Points joyn into one Body, and that United body to Dilatate, or Contract, or Unite, and yet not alter the Interior figure; and it is to be observed, that the Exterior motions work or act according to the several Bodies they work or act on, as some Bodies they Dilatate, some they Contract, and some Retain, but their chief Exterior actions on other Bodies is to Expel; but this is to be observed, that these Fiery points have different Dilatations, Contractions, and Expulsions in their own Bodies, from the Dilatations, Contractions, or Expulsions of other Bodies; but that which is most difficult for my Capacity, is to conceive, how this sort of Fire, which is Bright-shining, Hot-burning Fire, can Dilatate it self so Infinitely, as from one small Spark to an Infinite Body of Fire, that is, if the Fire hath Infinite fuel to Dilatate it self Infinitely Upon, and Into, or otherwise that this sort of Fire should have an Infinite power of Transformation, as to convert all Combustible matter, or such Fuel it works upon, to Transform that Fuel into the Fires Interior nature; but I conceive, that, if this sort of Fire had such an Inherent power to

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Transform the Fuel into its own Fire's Interior nature, the Fire would be more Strong and Numerous, and to have a more Lasting Continuance; as for Example, a House that is fired, if the House could be converted into the Interior nature of Fire, there would be a Converted house of Fire, or at least the Fire of the House would not go out or die; but Experience informs us, that the Fire dies as the Fuel dissolves; but this may be answered, both for the Dilatation of Fire, and Transformation of Fuel, that as the Fire Dilates it self on the Fuel, so the Fire Expels the Fuel, and with the Fuel its own Pointed parts, in which Expulsion the Fire dies, and the Fuel dissolves from the Inherent nature; so it may be said for the Transformation, that as the Fire Transforms the Fuel, in that Transformation of the Fuel the Fire dies, that is, the Fire and Fuel alter their Interior natures together, and so neither by the Dilatation of Fire, or the Transformation of Fuel, can they stay in a Continued body, but Dissolve together, but these Expulsions take not away the Infinite Interior nature and power of Fire, but, in my opinion, it is impossible, that a Finite creature can have an Infinite power, or Infinite nature, or Infinite proprieties or effects; It is true, Fire doth change those Bodies it works upon, from their Interior nature, and from their Interior and Exterior form, but not to be of the Interior nature of Fire; indeed, Fire doth rather Deform other Bodies, and Transform it self from

from it self, in striving to destroy those Bodies it works upon, in which Strife both Fire and Fuel is Transformed from their own Natures and Figures into other Natured figures or Creatures; But this is to be observed, that Fire cannot work upon all opposite Bodies as it hath an Appetite or Facility, but is bound to work on several Bodies, according to the nature of the Bodies it works on; and my opinion is, that this sort of Fire hath power to Transform some sort of Bodies to its own Exterior likeness and motions, but not to its Interior nature; I say, some sorts of Bodies Fire can do so, but not all sorts of Bodies, that are subject to Fire, will be so changed; but it is to be observed, that the first Endeavour and last Effect of Fire is, to expel all those Bodies Fire encounters, in which Expulsion it destroys it self, altering its own Nature with the nature of the Fuel, so that the Destroyed becomes the Destroyer. But, to conclude this Chapter of Bright-shining Hot-burning Fire, though this sort of Fire hath not an Infinite effect, being a Finite Creature, to Transform other Bodies it works on, into its own Interior nature, yet the Sparks or parts of Fire, may be of the nature of Vegetables Seeds, that when they are put into the Earth, may increase numerously by the way of Production, so Fire may do the like; as for the Sparks or small Parts of Fire being set or put to some sorts of Fuel, may increase by the way of Production numerously, and as some sorts of Vegetable

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feeds

seeds will not increase in all sorts of Earth, so Fire will not increase in all sorts of Fuels; but Sparks of Fire put into Fuel increase not onely more numerously, (as a million for one) than Seeds of Corn put into the Earth, but more suddenly, as in a moment of time; but if Fire increases by the way of Production, then Flint Stones, and such Sorts or Kinds of Bodies are as the Granaries or Store-houses, for those Seeds or Sparks of Fire to be kept and stored up for Increase, and for the use of other Creatures; but I will leave this and the like Considerations to those that have more Experience and Observations, and more Learning and Subtil and Ingenious Conception than I have. Yet I rather believe, that Fire is made by Motion out of two Hard bodies pointing the small Parts, stricken forth of those two Hard bodies, and not that Fire Lives in bright Sparks within the Flint.

CHAP. IX.

*Of the Interior and Exterior Motions of
Bright Shining, Hot Burning Fire.*

THIS sort of Fire, which is Bright Shining, Hot Burning Fire, hath several Contractions, Attractions, Retentions, Dilatations and Expulsions in its own Interior body, from those Exterior Contractions, Attractions, Retentions, Dilatations, and Expulsions, that Fire hath on other Bodies; as for the Interior Contraction
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of Fire, it is, when Fire is suppress'd by other Bodies, it Contracts within it self, Knitting its own Parts into a Less compass, but when as Fire Contracts other Bodies, it thrusts forcibly those Parts, that should be naturally Extended, into a lesser compass, than naturally they should be, as from a Circumference to a Centre; but the difference is, that in Fire's Interior Contractions, they gather closer their own Parts Inward, but the Exterior motions of Fire on other Bodies, that cause other Bodies to Contract, they drive those Parts of other Bodies from their fiery Bodies, and force those Dilatated parts to move towards a Centre; the same may be said for Dilatation, that the Fiery points when joyned into a Numerous body, Dilatate that Body Interiously into an Exterior compass by a free consent, but when as fire Dilatates the Contracted parts of other Bodies, then the Fires Interior points and Exterior motions do forcibly drive those Contracted parts of other Bodies to an Extended body; as for Retentions, when as Fire retains its own Interior parts, they joyn so close, and stick so fast one Part to an other, as they cannot easily be divided, or wander each Part from an other, and so Fire doth to other Bodies by the Exterior motions, forcing each Part of loose Bodies to stick together; as for this sort of Fire, the Interior Attractions is, when as some of the Fiery parts draw other Fiery parts to them by a natural Sympathy, and when that Fire attracts other Bodies, then the Fire's points stick

stick into those Bodies, and retire as to a Circumference from a Centre, but yet draw those Bodies with their Retirement ; and as for Fires Interior Expulsions, the fiery Points or Parts divide from each other, and when as Fire by the Exterior motion divides other Bodies into Parts, then Fire divides those Bodies in Parts, as Teeth chew Meat ; but this is to be observed of this sort of Fire, that many of the Fiery points will Issue out of a Numerous body of Points singly, and so obscurely, for when they move Singly, other Bodies more gross than Fire obscure their Brightness from our Sense of Seeing, but not from our Sense of Feeling, and thus by the Exterior motions of Fire divided Dense bodies are made Rare, and Rare bodies Dense, some Dilatated that should be Contracted, and some Contracted that should be Dilatated, and so for Retention and Expulsion ; but it is to be observed, that Fire cannot act on several sorts of Bodies after one and the same manner of way, but there are several sorts of Fire as there are of other Creatures.

CHAP. X.*Of the Exterior Motions of several sorts of Fire.*

THe Interior and Exterior Nature, Figure, and Motions of Hot, Glowing, Burning, Bright Shining Fire, is as one without any difference,

rence, but yet the Exterior motions of this sort of Fire work according to the Nature, Substance, or Body, it works on and in, for in and on some Bodies it works after one way, and in some after an other manner or way, neither doth this sort of Fire work in Rare bodies as in Solid bodies; but it is to be observed, that this sort of Fire doth indeavour to Transform most of what it works on to its own Likeness, but some Bodies will not be so transform'd, although they be dissolved by those Fiery motions, but that sort of Fire is named a Dull or Dead fire, as is such Fire, as dwells in other Bodies, as Vitriol, Cordials, Salt, or the like, which is a Condensed fire, for this sort of Fire, though it often dwells or is mixt with Liquid Substances, yet the Interior nature is made partly by Contractions, but the Interior figures is Edges or Points, which Figures are Sharp and Wounding; But this sort of Fire hath not Power to transform other Bodies to its own Likeness, as the other sort of Fire can, by reason, there is some difference in the Dead fires Exteriors and Interiors, being not Interiorly and Exteriorly alike, but hath some difference; also that sort of Fire in Oyl and Sulphur is not so Exteriorly burning as Salt or Vitriol, for Sulphur is only a Dens'd Oyl, but this sort of Fire is neither Exteriorly Hot nor Burning, whereas the Vitriol fire or Cordial fire is Exteriorly Burning, but not Exteriorly Hot, but all sorts of Fire are Flameable, although not Flaming, and all sorts of Rarifying Heat are
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in the way of Burning, as Dilatations are in the way of Expulsions, yet not to produce that effect; but for these Dead fires, those that are Volatile are composed more of the Hot dilatations, than those that are Fix'd, and those that are Fix'd are composed more of Hot retentions. But, to conclude this Chapter, there are as many sorts of Fire as there are of Light, of Air, of Water, of Earth, of Vegetables, of Animals, of Minerals; but this is to be observed, that the Bright Shining fire is apt to Ascend, if no other Body suppress it, and the Dead fire is apt to Descend, if the Bright fire doth not alter the nature, and force it to Ascend, for of those sorts of Fire neither would be Volatile nor Flameing, did not the Bright fire give it that Motion.

CHAP. XI.

*Of that sort of Fire, that is named a Dead Fire,
and the Difference betwixt that
and Bright Fire.*

BRight-shining, Hot-burning Fire is not the Bonely Fire, for there be many other sorts of Fire, but one other sort of Fire is visible to our Senses, as that which is named a Dead fire, which is such sort of Fire as is Vitriol, Salt, Sulphur, Spirits or Cordials, and the like; which sort of Fire the Interior figures seem not to be so much Pointed, as Edged, and the Interior parts to be more Contracted, or rather Retained,

tained, than the other sort of Fire, which is the Bright shining Fire, for the Dead fire is not so Agil, nor so Dilatating, nor so Wounding, as that Bright fire is; but these Dead fires, although they be Interiously hot and burning, yet not Exteriously hot and burning, as Bright shining Fires are, for that Fire is both Interiously and Exteriously hot and burning, and the Dead fire onely Interiously hot and burning, but yet not such a sort of Heat or Burning as the Bright fire hath, neither have those Fires that are named Dead Fires those General Dilating motions, or that Converting propriety as Bright fire hath, which shews, that the Exterior parts of Dead fire have a more Contracted and Retent^{ive} body, than Bright fire hath; but the Difference of these two sorts of Fire is, that the Rarity and Dilatations of Bright fire seem to be Exteriously, and the Density and Contractions of Bright fire Interiously; and the Density and Contractions of Dead fire seem to be Exteriously, and the Rarity and Dilatations interiously; that is the cause, that when the Exterior parts of Bright fire meet with the Interior nature of Dead fire, they agree as one Body Sympathetically, and will Incorporate in a Flame.

CHAP. XII.

Fire Produced by Exterior Motions.

SOME Exterior motions will change some Interior motions, as for Example, two Dried sticks rubbed together will beget Fire, and most Hard bodies with Exterior rubbing or grating will become Hot, which is the next Degree unto Fire, and the Reason is plain, for two Bodies grating or rubbing together, is the Motion of Whetting or Grinding, so of Sharping and Pointing, which are the Figures and Motions of Fire, for the Fire was not Interiorly in the Wood, but is made by an Exterior motion between two Bodies; the same may be said of Flint-stones, that when Flint is stricken by another Hard body, Sparks of fire proceed therefrom; but this is to be observed, that two Different bodies may Cohabit or Dwell together without any dispute of their Interior or Exterior natures, as for Example, Iron-stone, wherein Metall and Stone are mix'd into one Body; but many times those Bodies that are Actually hot, will dwell in those Bodies that are Actually cold, which is more different than Stone and Metall, as Water and Fire, as Vitriol water and the like, that is Actually cold to the Touch, and yet Actually burning to the Touch, and so some Exterior Colds and Heats may be mentioned for Examples, but for Exterior colds and Interior

rior heats, and Exterior heats and Interior colds, innumerable Examples may be given, and amongst all Examples of Different natures composed into one Body, is Quick-silver, which is Exteriorly Cold, Soft, Fluid and Agil, and Interiorly Hot, Burning, Expelling, and yet Solid and Heavy; but this is to be observed, that the Exterior nature of Quick-silver makes it Active, and apt to Divide, and the Interior nature makes it Weighty and apt to Unite, the Exterior nature makes it Cold, and the Interior nature makes it Hot.

CHAP. XIII.

Of Hot and Burning Motions, and of Burning Figures.

Here are Hot motions, Burning motions, and Hot figures and Burning figures, which do not in all Creatures associate together, as for Example, Oyl, the Interior figure of Oyl is the Fiery figure, yet Oyl hath not the Burning motion, unless some External fire give it that Motion, by which we may observe, that in Oyl, the Fiery motion is not joyned to the Fiery figure; also a Man in a Feaver, the Man's Interior parts are not Fiery figures, yet the Man is full of Burning motions, the like for Hot figures, and Hot motions; but most Creatures are indued with Hot motions, but few Creatures are indued with Fiery figures; 'Tis true, some Creatures are indued with Fiery figures, as

some Exteriously, and some Interiously, as Oyl is Interiously indued with Fiery figures, and Metall is Interiously indued with Fiery figures, and such kind of Liquors, as Vitriol, and Strong-water, have Exteriously fiery Figures, and some sorts of Stone are indued with Hot burning, Bright shining, Fiery figures; As for Hot motions, they are in a Degree to Burning motions, and Hot figures in the way to Burning figures, like as Seed sown, or Slips set into the Earth, are in the way to be a Tree, a Bud in the way to be a Flower, or like as Corruption of meat is in the way to be Maggots or Worms, but yet the Buds are not Flowers, nor the Slips Trees, nor the Seeds Herbs, Roots, Fruits, or the like.

CHAP. XIV.

Of the Nature, Motions, and Figure of Oyl.

THe Exterior parts of Oyl have Figure and Motions of VWater, as Smooth Circle-figure, and an extending Dilatating motion, but the Interior parts have the Figure of Fire, as Points, so that the Exterior parts cause Oyl to be Soft, Smooth, Fluid, Liquid, and Moist, but not Wet, for Oyl dilatates not to that Degree, nor in that sort of Dilatation as to be Wet, and the difference of Oyl and Vitriol or Cordial water is, that their Exteriors are of the Figure and Motions of Fire, and their Interior parts
and

and motions of the Figure and Motions of Water ; but by reason the Fiery nature or figures are the Interior parts of Oyl, the Fiery and Flameable parts cannot be Divided or Separated from the Liquid, Fluid, Moist, Soft, Smooth body, unless it can be Condensed into a firm Substance, but then the nature of being Oyl is Dissolved or Changed, whereas the Vitriol or Cordial water may be separated from the Watery body, with Dissolving or Changing the Watery body ; by which Observation we may perceive, that the Interior parts of Oyl are of the Nature and Figure of Fire, and the Exterior parts of Vitriol and Cordials are of the Figure and Nature of Fire ; and it is to be observed, that the Alteration of the Interior parts of a Creature or Substance causes a Destruction, but not the Alteration of the Exterior parts, for the Exterior parts may be altered, and yet the Interior be as by their Nature they should be ; but to prove that the Interior nature of Oyl is of the Figure and Motion of Fire, is, that when as Hot burning Bright shining Fire takes hold of the Exterior parts, and hath dissolved the Exterior, or hath with its Fiery points broken the Smooth Exterior Circle-compass, then the Interior fiery pointed Figures in Oyl are set at Liberty, and then those Points ascend in Parallel Lines, and so Dilatate into a Flame, which Dilatation causes Flame to be Rare and Fluid, although not Moist or Wet ; But this is to be observed, that Flame is the Rarest part of Fire, but Light is Rarer than Flame ;

Flame ; but to conclude this Chapter , Water, Fire, Flame and Light are all Rare and Fluid bodies in their Nature, although they may be obstructed by other Bodies , so as not to Move according to their natural Proprieties, but their Rarity and Fluidity are made by Extenuations and Dilatations , although their Extenuations and Dilatations are of several sorts ; Thus we may perceive , that Water, Vitriol, Fire, Oyl, Flame and Light are Mixt bodies, or at least Mixt motions in their Bodies , which produce Mixt effects; in truth, most Effects are of a Mixt nature.

CHAP. XV.

Of the Division of Several Liquors.

AS for Salt, or Sharp, as Vitriol water, or Bitter or Burning waters , those Mixtures are not part of the Interior Form, or Figure, or Motion, or Nature of Water, but onely a part of the Exterior Form , Figure and Motions , which is Dividable from the Interior form or motions ; for the Interior nature of Water is to be Rare, Fluid, Moist, Liquid and Wet , the Interior figure of Water is to be Round , Smooth , Circular , but the Exterior parts of those Round , Smooth, Circle-lines may be of divers Shapes , Forms or Figures, as also the Exterior motions, all which may be different from the Interior Form, Parts and Motions ; as for Example, the

Round,

Round, Smooth Circle-lines of Water may be Exteriously Flat, Edged, or Pointed, which may be altered by Exterior motions; or those Exterior parts may be Divided from the Interior parts, without a Dissolution of the Interior Nature or Propriety, Quality or Faculty of that Substance or Creature, named Water; The like of other Creatures; for as those Exterior parts, as Flat, Edged, or Pointed figures may by Interior motions, or Exterior motions, be made Smooth or Plain, or those Smooth or Plain parts may be made Flat, Edged, or Pointed, so they may be Divided from the Interior motions and parts, for the Salt or Vitriol may be divided from the Water, and the Water from the Salt or the Vitriol; but yet those Exterior parts are as Substantial in themselves as the Interior parts; as for Example, the Exterior parts of Animals, as Feet, Leggs, Thighs, Arms, Hands, Fingers, Eyes, Ears, Noses, and the like may be divided from the Body, and yet the Animal Creature remain as an Animal Creature, that is, the Animal is not Destroyed by Separating some of the Exterior parts from the Interior; also some Interior parts, as Humors, Flegm, Choler, Melancholy, Blood, and the like; but if the Vital Interior parts should be Separated, the Animal dissolves; these Vital Interior parts in Animals are the Liver, Heart, Lungs, Spleen, Stomack, Guts, Brain, and the like Chief parts or foundation of the Animal; So for Water, if the Interior Circles be dissolved or broken, it is no longer

longer Water, but if the Exterior points or edges be Altered or Separated, or Interior points or edges, which are Superfluities, be Altered or Divided from the Prime Consistent parts or Body of Water, the Water will remain as Nature or Infinite matter and motions hath made it.

CHAP. XVI.

*Of the Interior Figures and Motions
of Metalls.*

ALL Metalls are Created after the manner of Circle-figures, as Water is; but the difference is, that the Circle-figure of Metall contracts Inward, as the Circle-figure of Water dilates Outward; but this is to be observed, that Metall hath an Exterior sub-dividing Propriety, which shews that the Exterior parts of the Circle-compass are Edged, so may the Interior parts be Edged as the Exterior parts; but the Difference between Points and Edges, although both those Figures are Peircing, and Dividing, or Wounding, yet Edges are more of an United or Continued figure than Points; but to return to the discourse of Metalls, all Metalls have an Interior Contracting motion, as from the Circumference to the Centre, which Contraction causes Metall to be of a Dense body, but some Metalls are more Dense than others, as Gold is more Dense than Lead, but Gold seems to

to be more Strongly inhabited with Retentive motions, as also with Contracting motions; but to prove that the Interior figure of Metall is like to the Interior figure of Water, is, that when Metall is assaulted by the Dilative motions in Fire, which over-power the Contracting and Retentive motions in Metalls, then Metall becomes Fluid, and floweth as Water doth, but those Fiery Dilatations are named Melting of Metall. But it is to be observed, that it is not the nature of Metall to Flow, for the Flowing effect is Forced, and not Natural, which is the reason, that so soon as the Fiery Dilatations become Weak, the Contractions get the Victory, and Contract the Metall into the former Dense body again, and so a Repetition may be made of Dilating and Contracting so long as the Interior Circle-compass or Lines are individed, but when the Interior Circle-lines are broken or divided, the Metall changes the nature from being Metall, and so much Weight or Body that Metall loses in the Melting or Fiery furnace, so many Circle-lines are broken and dissolved by Fiery Expulsions, as were in that Quantity of Metall, in which the Nature and Quality is altered or dissolved; But some are of the Opinion, that the Interior nature or figure of Gold is not dissolvable, the reason is, that Chymists finding the Interior Retentive motions in Gold, to be too strong for the Expulsive motions of Fire, think it an Everlasting Body, as being not Liable to be Dissolved; but I

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believe,

believe this Opinion amongst some Men proceeds from an Impatience, in that they cannot perceive the Dissolution so suddenly as in other Metalls, or that they cannot make a Fire strong enough to Dissolve it, or that they have not found out the True or Right way of dissolving it; for I do verily believe, it is Dissolvable, as all other Creatures are; in truth, it seems to me impossible, that any one Creature can be Eternally Indissoluble, if it hath been Created, for what hath been Made by Animate matter and motions, may be Unmade again; and certainly the Animate matter, which is Restless, will never suffer any one Creature to continue Eternally, no, nor any Part of Infinite matter to keep in one Figure or Form, but Chymists make Gold a God Unalterable; As for Quick-silver, the Interior nature is like Metall, which makes it Heavy, but the Exterior figure is like Water, which makes it Fluid, Soft, Agil, and Glutinous, as to be apt to Divide and Unite.

CHAP. XVII.

Of the Exterior Motions of Heat and Fire.

Burning, Melting, Boiling, and Evaporating, are caused by several Fiery or Hot Dilating and Expelling motions, I say Several, by reason all Hot and Fiery Dilatations or Expulsions are not after one and the same Manner or Likeness; besides, those Motions work according

according to the Exterior Substance they work upon; as for Example, Leather doth not burn as Water doth, for Leather Contracts in the Fire before it Dissolves, and Water Dilatates before it Dissolves, neither doth Stone burn as Wood, and many Examples may be given, for some Substance wastes or dissolves in a Flame, some dissolves in small Sparks, and some dissolves in Vapour, and some by insensible Inspirations, and some Substances become more Dense by Fire, and some more Rare before they expire, & some Bodies may be beyond the Fire's Expulsions, as Gold, but most Bodies are subject to Fiery expulsions, by reason the Figure of Fire is the most Wounding, Dividing, and Destroying figure, being extraordinary Sharp, and the Motions extraordinary Quick or Agil; but yet Fire hath an Enemy, or an Opposite, which is Water, in whose Liquid and Wet substance Fire is destroyed, as being quenched out. But, to conclude this Chapter, all Evaporations and Melting are by Hot dilatations, and all Hardnings, Firmings or Densings, are by Hot contractions, and all Burnings and Dispellings are by Hot expulsions; but this is to be observed, that there are Degrees of Fire.

CHAP. XVIII.

*Of the Power of Water on Fire, as the
Quenching out Fire.*

THere is such an Antipathy betwixt Water and Bright-shining, Hot-burning Fire, as they never meet, but Fire is in danger to be quenched out, if there be a sufficient Quantity of Water; but it is to be observed, that it is not the Actual Coldness of Water that quencheth out Fire, for Scalding water will quench out Hot, Bright, Flaming, Burning fire; therefore it is the Wetness of Water that quenches out Fire. 'Tis true, there be many Liquors that are subject to Burn, but there are few VVets, that have not power to Quench, and many sorts of Flameable Liquor, as VVine, and the like, will quench out Hot, Burning, Bright, Shining fire, if enough of such Liquors be flung on the Burning fire, by reason such Liquors have more of the Watery quality or nature, than the Fiery quality or nature.

CHAP. XIX.

Of the Dissolving of Water.

Fire doth seldom get the Victory of Water, but by a Proxy, as when an other Body is between Water and Fire; it is true, the
Fiery

Fiery points of Hot burning, Bright shining Fire will divide the Watery-circle, if there be more Fire than VWater, but not upon a powerful body of VWater, for the VVetness of VWater doth Flat or Blunt the Fiery points, besides, the Moistness of VWater is apt to Glue or Heal the VVounded or Broken parts of the Circle-lines as fast as they can be Broken or Divided; besides, the Fiery points are apt to be Intangled, and so incumbred in the VWatery-circles as they lose their Force and Power, or are like Birds that are intangled in Nets, or Flies in Spider's Webs; thus, in a plain Combat, for the most part Water hath the Victory, unless there be great Odds of the Fire's side; but when Fire assaults Water by an Undermining motion, then Fire, after some times of Labour, gets the Better, by Hot Dilatating motions, which extends VWater beyond the Nature and Degree of the Watery Circle, yet oftentimes there is a Dispute in their Conflict; as for Example, when as Water in a Vessel is set upon Fire, the Fire under the Vessel sends out its Hot Dilatating motions through the Vessel into the VWater, and there by violent strength bears up some parts of the Water above other parts, and in-
deavours to Divide and Break the Water into Exterior parts, and so to Separate the United body, and by those means to Weaken the United strength, also to Rarifie those Parts beyond the Degree of Water, but Water in its own Defence doth endeavour, so long as it hath

hath Strength, to close or joyn those Dissevered or Divided parts into one Body again, by the means of its Natural moistness and wetness; This is the cause of the Perturbance of Boyling water; but when as Fire doth only Rarifie water, it doth that Work by a Softer and Gentler motion, as more Insensible, in which Wasting condition VVater dies of a Consumption, or Hectick Feaver, Dissolving by degrees, and as it were Insensibly.

CHAP. XX.

*Of the Motions that make Natural Air
and Natural Light.*

NAtural Air seems to be made by such Kind of Motions, as Spiders make Cob-webs, for the Animate matter's motions Spin from a Rare degree of Inanimate matter, small Lines, interweaving those Lines into a Clear substance, which Thin, Clear, Spreading Substance or Creature, spreads upon and enters into most of the Creatures of the whole Universe through their Porous passages; also this sort of Air is the Chief substance, that the Sun-beams spread and dilate upon, or through, I say upon, for the Sun-beams do not Intermix, for what is Intermixt, doth nor cannot suddenly Separate, besides it would make a Confusion between the Light and Air, insomuch as the Light and Air would be so Perturbed, as all that Region or Hemisphere would

would be of millions of several Colours, and not any Pure, Clear light, for that which makes the natural Light so Pure and Clear, is, that it is not of a Mixt substance, nor hath Perturbed motions in it self; But it is to be observed, that Light and Air hath some Coherence in their Natures, for they are both made by Dilatations and of Lines, only Natural air and Natural light are different, in that Air is Interweaved Lines like as Spiders webs, whereas Natural light is straight Parallel lines without Interweaving, but these Parallel lines are Smaller Lines than Air-lines, and the Substance much Purer than the Substance of the purest Air, and the Lines of Natural light which issue from the Sun, do Dilate with an Extraordinary Swiftnes, Eveness, or Equalness, Smallness, and Straightness. But there be as many several Lights and Airs as of other Creatures, as some I will expresse; for Example, as Sun-light, which I name Natural light, then fixed Stars light, then ordinary Fire-light, Meteor-light, Glow-worm-light, Rotten wood-light, Cats eyes-light, Fish scales-light, and Fish bones-light, Diamond light; also there be many Reflected lights, as from the Planets, and several Lights that are not known to Men; but as for the Sun-light, or any other Light, it Shines through the Pure air, as through Transparent glass; But were not Light a Body, it would not be subject to Sight, for although all Bodies are not subject to Sight, yet Sight cannot possibly see what is not a Body, which is not
to

to be seen, and so I could say as well that Fire hath no Body, because Light hath no Body; But this is to be observed, that as some Fires are without Light, so some Lights are without Heat; also Light being a very Rare body, can Dilate and Contract with facility, and with an Extraordinary agility. But to conclude this Chapter, Light can Dilate and Contract through the Air, and with the Air, and spread upon Solid bodies without Diminishing its Substance, or Altering its proper Nature, but when the Nature is altered, and the Substance diminished or changed into some other Creature, it changes invisible to our Sense, for all Bodies or Creatures transformations are not subject to one Creatures one Sense: But when as Light is Ecclipsed, it is only hindered from Dilatation, but not altered in its Nature, and when Light withdraws from a place, it leaves no Print behind it, for Light is so Soft and Rare, as it cannot Print, unless the Lines of Light be drawn or contracted into several Colours, and those Colours incorporate into other Bodies; But there are so many several Lights, and some sorts of Lights, their Natures and Proprieties, as also their Effects are so different, as it would be an Endless Work to treat of every Several Sort.

CHAP. XXI.

Of the Motions that make Darknefs.

THE Motions that make Darknefs are opposite to those that make Light, for Light is Equal Parallel lines, and Swift Dilating motions, and Darknefs is composed of Contracting motions, but not of such Contractions as do Dense bodies, but only such, as do Darken bodies; also Dark motions do intangle the Lines of Light, or break those Lines, or perturb those Lines, and the Dark contracting motions do obstruct the Light dilating motions, and when as Darknefs cannot quite Destroy them, yet it will Darken them, making Shadows, if not Colours. But to prove there be Dark bodies made by such or such Motions, Dark and Black Clouds will obscure the Sun's light, not only by Grossness of the Body, but the Dark or Blackness of the Body, for a Thin, Dark substance will obstruct the Bright peircing Light; but the Motions of Darknefs seem to be Intermixt, or Intangled, or Troubled motions.

CHAP. XXII.

Of Shadows.

SHADOWS are Copies or Pictures, Drawn or Printed or Ingraven by Dark motions, which

Bb Dark

Dark motions do Ecclipse Light ; and to shew there are such Motions as make Darkness, there could be no Shadows if there were not Darkness, nor no Darkness if there were not such sort of Motions to make Darkness.

CHAP. XXIII.

Of Shadows and Aery Figures.

SHADOWS are Printed or Ingraven, or Painted by those Motions which make Darkness, upon Inlightned Air, but the Print is not seen, but upon a Solid Ground or Flat, as I may say, which Ground must be opposite to the Figure it represents, which is after this manner, as one Figure makes more, for the Figure makes a Figure, that is, the External motion of the External figure cuts out a Figure of Air ; for questionless, wheresoever our Bodies are, there is the Figure in Air, for we are alwayes incompass'd about with Air, wherein we make Prints of our Figures ; for the Solid bodies Print their Figures in that, which is a more Porous and Softer Substance, as a Seal on Wax, or a Print on Butter, or the like ; thus the Solid bodies as they remove, still make new Prints perpetually and infinitely, but as they remove, the Prints melt out like Verbal and Vocal Sounds, which Print Words, and set Notes in the Air ; and the reason we cannot see the Letter in the Air, as well as hear the Sound, is, that the Air being so Porous,

rous, is proper onely to convey a Sound to the Ear, or to spread it abroad, but not Solid enough to fix the Eye thereon, having not Substance to hold an Object so long a time as to take notice thereof, unless it be drawn into a Shadow upon a Substantial ground, on which the Eye may fix; but until the Figurative be cast upon a Solid ground, the Figures are like Sculpture, but when they are drawn in Shadows upon a Ground it is as Painting or Printing.

CHAP. XXIV.

Of Stone.

AS for Stones, I am in some question with my self, whether they are made by Cold contractions and retentions, or Hot contractions and retentions, for I observe, that Art will make Stone by the help of Fire, as for Example, Stone-vessels, also Bricks, which are of the nature of Soft stone; but when I consider of Transparent stones, they seem to be made rather by Cold motions than Hot, having the resemblance of Ice; but then I consider, that the Effects of Cold and Heat are oftentimes alike, as Hot and Cold Contractions, Retentions and Expulsions will oftentimes produce the same Effect, or at least not much different, the like for Cold and Hot Dilatations; But I rather believe, that all sorts of Stone are made by Hot contractions and retentions, than by Cold, for

Glass, that is somewhat of the nature of Transparent stone, is made by Fire.

CHAP. XXV.

Of Transparent Stones.

ALL Transparent stones, as Diamonds, Rubies, Emeralds, Crystal, and all other such like Stones, seem to be made by such kind of Motions as other Stones are, onely they seem to be made by Stronger motions, and more Pure Tempered matter; as for Example, there is great difference between Coarse Iron and Fine Steel, yet both of one sort of Metall; also there is great difference between Coarse Powder-sugar, and Sugar candi'd, yet both Sugar; also there is great difference between Pure Purse-line and Coarse Earthen-pots, yet both sorts are of Earth; but all Transparent Stones, as also Glass, is onely Calcin'd earth, and as for Transparent Stones, they are Calcin'd by Nature, Glass by Art, which is the Child of Nature; But the two chief Motions in Transparent Stones are Clarefactions and Denfations.

CHAP. XXVI.

Of the Load-stone.

ME-thinks 'tis strange, that Men should wonder more at the Nature of the Load-stone

stone in Attracting Iron, and in the North's Attracting of the Needle Touched with the Load-stone, than at the Sun's Attracting of Vapour. But some will say, that it is the Nature of Fluidity, of which Nature Vapour is one, to move with Facility, and not the Nature of Solidity, of which Nature Iron is one, which is Heavy and Slow; but I say, if the Attracting motions in one Body be stronger than the Contracting and Retentive motions in the other Body, and those Figures Motions work with, be Advantagious, I see no reason, but a Fluid body may Attract a Solid body; for it is not the Substance of the Body that Works, or produceth Effects, but the Agility, Subtilty, or Strength of Motions, and Advantage of the Shape, so that the Working-power is more in Motion and Figure, than meerly the Matter; as for Example, doth not Experience prove, that Fluid Vitriol will work through Solid Metall? the reason is, because the Expulsive motions in the Vitriol, and Sharp points, are stronger than the Contracting motions and Blunt edges in the Metall; but some will ask me, why the Load-stone Attracts only Iron? Such a Question I ask, why Beauty should forcibly Attract the Eye? They will answer, by Sympathy; and I have heard, that it was the opinion of Learned men, that Sympathy had the same Effect betwixt the Load-stone and Iron, but I think it not so much in Sympathy as Supremacy. Besides, it is the nature of Attracting motions, of which the Load-stone is
strongly

strongly inhabited withall, to work on that, which is Without it, as From it, not Within it, or as it were upon it, which no other Visible Kind of Motion doth. And certainly, the Load-stone is composed of Sharp figures, yet not of such Sorts as Heat or Burn, and those Figures do issue out as Beams do from the Sun, and as they Draw the Iron, they back Return; and as the Bright beams issuing from the Sun, do neither Weaken nor Lessen it, so the Invisible beams that issue out of the Load-stone neither make it Less or Weaker; yet the Beams of the Load-stone do as the Sun-beams, the farther they Spread out, the less Strength they have to Draw; Besides, if other Motions, which oppose, and are stronger than the Natural motions, may weaken the Strength, as Accidental maladies may weaken Animals, or Shrewd and froward weather Vegetables, or the Natural Consisting motions proper to that Figure, may turn to Expulsive motions, and over-power the Natural Attracting motions that issued therefrom. But, as I have said, it seems the Attractive power of the Load-stone is stronger than the Iron's Retentive power, and Sharp-figures that issue therefrom, are more advantagious than the Blunt edges in the Iron; and as the Sharp figures in Fire unknit and loosen the Contractive body of Metalls, making them Fluid, so the Sharp points that issue in Lines from the Load-stone fasten to Iron, Drawing it to it; And as Fire works upon Several bodies after

after a Different manner of way, according to the nature of the Body it Works on, producing divers Effects, so for all I can perceive, may the Load-stone; for certainly we do not know, nor never can come to that Knowledge, as to perceive the several Effects that are produced from the Least, or as we account, the most Inconsiderable Creature made in Nature; So that the Load-stone may work as Variously upon several Bodies, as Fire, and produce as Various effects, although nor to our Sense, nor after the Same manner of wayes, that Fire doth; and as Fire works Variously upon Various bodies, so there are Fires of several Sorts, and those several Sorts have several Effects, yet one and the same Kind, but as the Causes in Nature are hid from us, so are most of the Effects; But to conclude my Discourse, we have only found that Effect of the Load-stone, as to draw Iron to it, but the Attracting motion is in obscurity, being Invisible to the Sense of Man, so that his Reason can only Discourse, and bring Probabilities to Strengthen his Arguments, having no Perfect Knowledge in that, nor in any thing else; besides, that Knowledge we have of several things, comes as it were by Chance, or by Experience, for certainly, all the Reason Man hath, would never have found out that one Effect of the Load-stone, as to draw Iron, had not Experience or Chance presented it to us, nor the Effect of the Needle; and all the Ages before, I mean those we have Records of, were Ignorant of

of that one Effect, and perchance other Ages may find out some other Effects produced therefrom, which these Ages are Ignorant of; and as our Knowledge comes Slow, and in Parts, and Pieces, so we know but Parts and Pieces of every particular thing, neither is the Generality of our Senses capable of one and the Same Knowledge; for what one Sense knows, another Sense is ignorant of; and questionless there are some things in Nature, that it is impossible for our Senses to be made acquainted therewith, as being too curious for our Senses, but not to some other Senses, for certainly Nature hath as many Different Senses, as other Works. Indeed, all things are wrought by Sensitive motions, which must needs Create a Sensitive Knowledge in every thing, and where Knowledge is, Reason is; for Knowledge is Reason, and Sense is Knowledge, but Sense and Reason work in several Figures, different Wayes, and not only in different Figures, but in one and the same Figure.

CHAP. XXVII.*Of the Needle.*

I Perceive, the Norths Attraction of the Load-stone is not after the same manner of Attraction, as the Load-stone attracts Iron, for the Attraction of the Load-stone draws Iron to it, but the Attraction of the North draws the Load-stone

stone towards it, by the turning it that way, as the Sun will do the Heads of some sorts of Flowers; for if the North attracted the Load-stone, as the Load-stone Iron, the Load-stone would be in a Perpetual motion, Travelling to the North-pole, unless it were Fix'd, but I do not hear that a Load-stone doth remove out of the place wherein it is, but it turns, as I may say, the Face towards it; now the question will be, whether the Load-stone turns it Self towards the North, or the North turns by Compulsion, or by Sympathy; the Experiment will be by Iron, that if a Great quantity of Iron should be laid at one side of the Needle, whether the Needle would not Vary from the North towards the Iron, if it do, it shews the Load-stone turns it Self towards the North, or else it could not turn from the North, for certainly the North hath a greater Operative Power to turn the Load-stone to it, than the Load-stone could have to turn it Self from it; So if a quantity of Iron can cause the Needle to Vary, it shews that the Load-stone turns to the North by a Self-motion, and not the Motions of the North that make it turn to it, but if it Varies not towards the Iron, then the North Forces it, unless the Load-stone take more delight to View the North's frowning Face, than to imbrace hard Iron, or that the Feeding Appetite is stronger than the Viewing Delight; for it only turns it Self to the face of the North, but if it turns not it Self, the North Forces it to turn, which as I have said before, is

to be found by the Experiments of Iron ; but if it turns it Self, I believe it may receive some Refreshments from those Raies which stream from the North , for all things turn with Self-ends ; for certainly every thing hath Self-love, even Hard stones, although they seem Insensible ; so the Load-stone may work as Various effects upon several Subjects as Fire , but by reason we have not so much Experience of one as the other, the Strangeness creates a Wonder , for the Old saying is, that Ignorance is the Mother of Admiration , but Fire, which produces greater Effects by Invisible motions, yet we stand not at such Amaze, as at the Load-stone, because these Effects are Familiar unto us. But perchance the Load-stone is Nourished by Iron, as many Creatures are by Heat , for though the Creatures are Nourished therewith, yet the Heat alters not its Vertue, nor the Body in which the Heat inheres loses not the Property of Heating, the Sun is not Weakned by Warming the Earth, though the Earth is Stronger by the Warmth of the Sun , but Warmth feeds after a Spiritual manner, not a Corporal, and as some things are Nourished by Warmth, so others by Cold , as Ice, Snow, and many other things, the like may the Load-stone be Refreshed, although not Fed by the Cold North ; and as Fire is fed by Fuel, so may the Vertical part of the Load-stone be by Iron, as Exercise amongst Animals gets Strength, so doth the Load-stone on Iron, and as Idleness or want of Food breeds Weakness and Faintness.

ness, so doth the Load-stone separated from Iron. But the reason Iron doth not move to Iron, as Iron doth to the Load-stone, is, that there is a Sympathy in Contrarieties, as for Example, those Things or Creatures that are Cold, Seek and Adhere to those Things or Creatures that are Hot, and those Things or Creatures that are Hot, Seek or Adhere to those Things or Creatures that are Cold, so that Cold creatures are Nourish'd by Heat, and those that are Hot, are Refreshed by Cold; thus Extreme Contraries meet in Equal Sympathies.

CHAP. XXVIII.

Of the Different Motions and Figures in the Tides, as Flowing and Ebbing of the Waters.

HUMAN Sense and Reason may perceive, that the Tides of Waters have two Different motions at one and the same time, as to Dilate one way, as in the Flow, and to Contract the other way, as in the Ebb, at one and the same time; also to have two Different figures at one and the same time, as to be Convex at the Head of the Tide or Overflow, and to be Concave at the Tail or End of the Full Tide, or Flow, which is the Ebb; but that which my Human sense and reason perswade me, that Water doth always Flow in a Convex, and Ebb in a Concave, or a Pointed line, is, that when

we fling or throw Water on the Ground, it Flows in a Half-circle in a Convex figure, and the End of the Flow is Narrow, like as the Figure of that Fruit we call a Pear, which is Round and Big at the Upper part, and Narrow and Small to the Stalk; so that the Concave gathers towards a Point, but being Swell'd by the fall of the Tide, it Widens and Dilatates into a Compass, as into a Half-circle; but to inform my Readers as well as I can of my Opinion, without disputing according to *Copernicus*, that the Earth goeth about, and the Sun stands still, upon which Ground I have heard that *Galilæus* says, the reason of the Ebbing and Flowing of the Sea is the Jogging of the Earth; but I have heard that the old Opinion was, that the Moon was the cause of the Ebb and Flow, which I can hardly believe, for mark the Tide from *Scotland* to *Marget*, when the Moon hath the same Influence, and this Tide is always so many hours in coming from *Scotland* to *Marget*; if it were the Moon, why should it not be High-water or Full-tide at *Marget* and in *Scotland* at the same time, the Power of the Moon being all one? so that seems very improbable to me, for many things fall out at the Same time, and yet the one is not Cause of the other; and in Philosophy there is nothing so ordinary as to mistake the Cause of Things, since indeed the Causes of Things for the most part are Hidden from us. But some again will have the Sun the cause of the Ebbing and Flowing of the Sea;

Sea ; others say , Heat makes Motion , and the Seas being Salt make Motion, because it is Hot ; but how comes it that the Fresh-waters Ebb and Flow , even Springs ? But whatsoever the Cause be of the Sea's Motion, where it moves ; for in some places , they say , it doth not ; but where it moves , it is never High-water in one place , but it is Low-water in another place, and the Sea moves always Circularly ; for as it is the Nature of Water to be made in Figures of Circular-lines , so it is the Nature to Flow Circularly, which, in my Opinion, is the reason of the Ebbing and Flowing Tides, that move Circularly , that is part of a Circular , where the Convex flows still forward , the Flowing motion extends more and more , causing it to swell out, and the Concave ends to extend longer and closer, insomuch as at last the Concave ends are joyned into a Convex , for it doth not extend in a perfect Round circle , as I shall describe in my following Discourse , but after an Oval , or rather a Pear-figure , but when the Flowing Convex is extended beyond the Strength , it streight breaks, being most weak, by reason it is most Extended out , so that when the Tides have no more strength to Flow for want of Water to Extend, and the Convex over-power'd by Extenuation, it breaks asunder, and so falls back, where by the Convex parts are now become the Concave, and where it was Concave , is now become Convex , which causeth it to Flow the other way, and Ebb where it did Flow ; for where it
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lies Concave, it Ebbs, and where it is Convex, it Floweth; and thus it Ebbs and Flows perpetually, where it hath free Passage, but the farther it Flows, the Weaker it becomes, by reason the strength is abated, like a Horse that hath run fast and far, at last is so weak and breathless as he falls down; so when the Convex can Extend no farther, it breaks in two; but as the Convex Extends, the Concave ends draw Closer together, where by such time as they come to joyn, the Convex is so bowingly stretched, as it becomes Brittle, as I may say, or Weak, which causes it to break; but it is to be observed, that the Tides have a Double motion, for as the Convex flows Forward, the Concave ends draw Backward at one and the same time, for the Extenuation of Convex one way, causeth the Extenuation of the Concave ends the other way; but by reason the two Ends draw close towards a Point, the Ebbing waters seem Narrow and Little; but the Ebbing Tides are but an Effect of the Flowing Tides, not a Cause in it self, for the Interior nature of Water is to Flow where it can get Liberty and Freedom of Passage, and where it doth not Flow, it is Obstructed by some Obscure cause; But I desire my Reader not to mistake me, as to conceive the Motion of the Tides, and the Interior nature of Water all one, being something alike; but the Motions of the Tides, and the Motions of the Interior nature of Water are as Different, as the Local Motions of Animals, and their Interior nature,

nature, and I believe, if the fresh Waters had the same Liberty as the Sea-waters, to Flow which way they would, without Opposition or Obstructions of Hills, Dales, Banks, and Walls, and had the like Quantity to move withall, I believe they would as naturally Flow as the Sea, and Ebb when their Strength fails; and I believe, if there were a sufficient Quantity of Water in the Sea, and no Obstructions, as Islands, Creeks, and the like, to hinder the Passage, and that the Earth were like a Billiard Ball, it would Flow perpetually Round, as the Globe turns upon the Pole, if the Pole turns not round with the Globe: But by reason of the several Obstructions of Islands, Creeks, Rocks, and Precipices of Ice, the Sea cannot have a constant Force or Stream of Running round the Earth, but being broken in Parts, or Divided by these Obstructions, it Flows as it were in Parts, which is to Flow, and then to fall Back in an Ebb, wanting a full Power and Strength to Flow round; for certainly it is the Nature of the Sea, if not Obstructed, to Flow round, and not to Flow, and then to Ebb in Tides; but the cause of the Motion of the Sea is the Roundness of the Earth, and the great Quantity of the Water above it, and the cause of the Ebbing of the Sea in Tides, is the Obstruction afore-mentioned, and not caused by the Jogging of the Earth, as some have Imagined, which is to my Sense a Rough Opinion, to conceive so Rough and Jumping a motion of the Earth, which Turbulent
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and Uneasie motion in my Opinion would Disorder the Earth, and the Creatures in and upon the Earth, rather than cause the Tides ; but if the Earth hath a Smooth Circular motion, it may cause the Sea to move with it in a Circular stream, like as a Mill-wheel in a Pond, but these Obstructions I mention, hinder that free Circulation, and are the cause of Ebbing and Flowing, so that it hath neither the Strength, nor Liberty to go Round in a Smooth Stream, but is Troubled and Opposed. But to conclude, if the Earth had such a constant Jogging motion, it would cause a Perpetual Descension and Ascension of Mounts and Vallies, neither would there be any Setled and Firm ground.

CHAP. XXIX.

Describing of Tides.

THe Flowing Water gathers up together like Superfluous Humours, and swells out the Convex, as Corrupted matter doth the Skin, and never leaves Extending till it Breaks, but it begins by the Degrees in a Demy-circle, and as it Flows, it grows Larger and Longer, extending its Compass ; and as the Convex Extends, the Concave ends must of necessity draw Closer together, which makes the Ebbing waters like a Tail to the Convex, which is as the Body, which makes the Ebbing waters to be Narrow, and by the reason the Bulk of the Water flows in

in the Convex, it causes the Concave ends to be Small, which makes it Shallow, and the more the Concave ends Extend, the Smaller they are, like T hread drawn from a full Distaff of Flax; for so the Concave ends draw or rather extend from the Convex body; but as I said before, the more the Convex Extends, the Closer the Concave ends draw together, and when the Convex is Extended to the uttermost, they Joyn, and as soon as ever they are Joyned, and mixt together into one Point as it were, it swells into a Body; for the former Convex being broken, the Waters fall back to that Part, which was the Concave, but now is become the Convex, and that Part, which was the Convex, is now become the Concave, yet the Convex must be full, before the Concave ends extend, like as a Glass that must be filled above the Brim before it can run over.

C H A P. XXX.

Of Double-tides.

AS for Double-tides, they are caused when as the Convex Lines of the Flowing Tide break faster than it can orderly Retreat, whereby they Retort back with a Double force, which causes a Double-tide.

CHAP. XXXI.

Of Spring-tides.

AS for Spring-tides, they are like as Natural Issues, that proceed from the Earth, for though the Veins of the Earth are not fill'd with Sea-water, yet the Superfluous water in the Earth may issue forth of the Earth, which Issues cause the ordinary Tides to Exceed both in Strength and Fulness, and when there are Lower Tides than ordinary, there is some Obstruction, that the Observation of Men knows not.

CHAP. XXXII.

Of Tides and Streams Flowing against each other.

THe reason the Tides flow thorow a Stream of a Running River, is, that the Tide is more Strong than the Stream, but if the Stream flows thorow the Tide, then the Stream is Stronger than the Tide, but if the Stream and Tide pass thorow each other, as the Stream to go beyond the Tide, and the Tide beyond the Stream, then the Tide and Stream are like Duellers, which make Passes and Passages.

CHAP. XXXIII.

*Whether the Sea run thorow the Veins
of the Earth.*

SOME of the Learn'd are of that Opinion, that the Veins in the Earth are fill'd from the Sea, and that the Sea-water runs thorow the Earth as thorow a Sive, or the like Porous thing, letting pass the Rarer or Thinnest part, and retaining back the more Solid parts, which is the Salt, which to my reason is not probable; for we may observe through Experience, that the Nature of Water is Moist, and Liquid, and Wet, by which Wetness it Draws or Intermixes so, as to Suck or Draw the Salt or Tincture out of Solid Substances or Bodies, even the most Solid bodies, as Minerals, which are more Hard or Dense than the Porous earth is; and we find by Experience, that those Waters which run thorow Mines, have not onely the Taste and Tincture of those Minerals they have met with, but the Purging and Opening effects, which shew, that the Water draws a Substance from the Minerals, and not the Minerals from the Water, the like from the Earth, for that Water that runs thorow Chalky-grounds and Clay-grounds, will have the Colour and Taste of either; also all Salt-meats that are laid or soaked in Fresh-water, the Water becomes Salt and the Meat Fresh,

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by reason the VWater hath drawn with the Liquid and VVet motions the Salt from out the Meat ; 'tis true , Salt-water will make Fresh-meat Salt, by reason it enters thorow the Pores of that Spongy substance , and there remains so as it is , the Salt-water is in that Porous substance , for that Fresh substance hath not made the Water Fresh, but the Salt-water hath made the Meat Salt by remaining in it ; By these Experiences we may easily believe, that either the Sea-water doth not run thorow the Veins of the Earth , or that it is not made Fresh by the Earth , but by the Heat in the Earth , which Distills , and so divides the Salt from the Water ; but it is more probable , that the Earth is fill'd with Fresh-water of her own , which is as the Blood in the Veins , and Dews are as Sweat thorow the Pores of the Earth , and Rains are those Dews turned to Vapours , and so into Clowds, which fall back upon the Earth, and so into the Earth again. But , to draw towards an end of this Chapter , if the Sea-water runs thorow the Veins of the Earth , the Sea must be much Bigger than the Earth , as to Feed and Nourish the Earth , as also to Feed, Nourish and Refresh all the Creatures in the Earth , as also to serve its own turn to keep in a Full Sea , and to serve all the Sea-creatures , and to run about the Circumference of the Earth , and to feed the Air and Vapours , Winds , and the like , both VVithin the Earth, and Above the Earth ; and if the Earth were Bigger than the Sea ,
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then the Sea were not sufficient to serve the Earth, as also its own Compass and Depth, otherwise they must be Equal, as not the Sea to be more than the Earth, or the Earth more than the Sea.

CHAP. XXXIV.

Of Nilus.

IN *Egypt*, the Sun being Hot, and that part of the Earth as is named *Egypt* having not a Sufficiency of Moisture, for the Motions from the Sun to draw forth, the Sun becomes so Strong in such a course of Time, as to draw up a Great quantity, like as a Sea, but the Strength being not able to draw up such a Body of Water very High, after it hath drawn the Water some Heighth, as some Yards or Feet high, the Sun lets go his Hold by Degrees, which causes the Waters to fall back, or to descend, and then to run their former Course; besides, it may be the Propriety of the Sun to have more Attractive motions on Water in those Parts of the Earth at such a Time of his Course, or Yearly Journey; but if *Nilus* proceeds from the Nature of the Water, to Flow to such a part of the Earth, in such a compass of Time as once a Year, then it is after the Nature of Natural Issues or Tides, of which Human sense and reason hath not clearly found out the true cause, but Causes are not readily to be known, although it be easie
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to observe the Effects ; and as for the Cause of Tides, and *Nilus* overflowing, we may as well ask, why Animals breath as to draw Inward and dilatate Outward the Air and Breath in such equal distance of Time and Motions, as why the Water Ebbs and Flows at such constant times.

CHAP. XXXV.

Of the Divided Parts of Water, and several External Motions.

WATER being of a Rare and Porous body, is apt to Divide into several Parts, as into several Drops, which Drops are Round, according to the proper Nature of Water, being composed of round Circle-lines ; but as Water is apt to Divide in Parts, so those Parts are apt to Unite together, for as the Rarity and Sponginess makes it apt to Dissever, so the VVetness and Rarity makes those Parts apt to Joyn and Stick together, or to Intermix together ; also the Rarity makes Water Fluid, and Rarity and Fluidity is caused by Extenuating motions ; But, to conclude this Chapter, as Human sense and reason may perceive and observe, that Interior and Creating motions are divers in every Creature, so the Exterior motions, as for Example, of the Exterior motions of Water, which are after divers and several manners of Ways and Motions, as Flowing, Ebbing, Streaming, Spreading, Running, Circling, VVav-

Waving, Furling, Folding, Curling, Rising, Falling, Springing, Dropping, Showring or Raining, which is falling in long straight Lines, or Chains of drops, either Intermixt drops, or Joyn'd drops; also the several Dilatations, as into Vapour, Air, or Wind; also it will Contract into Snow, Hail, Frost, and Ice, and millions of other Motions, that will be too tedious to Express, and millions of Motions, that Human sense and reason cannot Express, and as for Water, so the like of all other Creatures.

CHAP. XXXVI.

Of Rain.

Water is apt to fall down by the Weightiness, for the several Drops or Parts of Water sticking close through the Wet quality or propriety, those Parts joyn close together, or intermix so one into an other, as they cause Weightiness, for though the nature of Water is Rare, and the Animate motions are Extenuations, yet the Combining of the Parts of Water is Contraction, and so Denfation, and so becomes Heavy, so that the Interior motions make it Rare and Light, but the Exterior motions make it Dense and Heavy, so that Water by the Animate nature and motions is apt to Disperse, and to Ascend into Vapour, and by the Exterior motions to Unite and Descend into Rain, thus Water ascends in Vapour, unites

unites in Clouds, and falls down in Showers of Rain.

CHAP. XXXVII.

Of External Figures, and Internal Forms.

IN some Creatures there is such a Sympathy betwixt the Internal Form, and External Figure, as the Alteration of the one, Changes the Nature of the other; as for Fire, when as the External figure is Altered, the Internal faculty or propriety or nature is Destroyed; by which it is to be observed, that the Interior nature of Fire depends upon the Exterior figure; but as for Water, the External figure may be Changed or Altered, and the Interior nature not Altered, as we may observe when it is Frozen or Congealed into Ice, Hail, or Snow, then the Exterior figure of Water is Changed, but not the Interior nature, for when the Water is Unfrozen, the Water will be, as it was, before it was Frozen, by which we may observe, that the Interior nature of Water doth not depend upon the Exterior figure; as for Animals, their Exterior figures are not so United to the Interior nature as Fire, as to Dissolve one with the other, nor so Pliant as Water, as to Change and Re-change from one Exterior figure to an other Exterior figure; neither do the Exterior figures of Animals suddenly Dissolve with the Interior nature, for the Exterior figure of a Dead man is as
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it was when he was Alive, but after the Interior nature is dissolved in Animals, the Exterior figure dissolves by Degrees.

CHAP. XXXVIII.

Of Metamorphosed Elements.

AS I have formerly mentioned the Creating motions of Earth, Water, Air, and Fire, now I will Discourse of the Alterative motions, or the Transforming motions, as also the Destroying motions of the Loose parts of the Elemental bodies; I begin with the Transforming motions of some of the Loose parts of Earth; the Natural motions are Attractive, Contractive, and Retentive, when as those Motions alter from Contractive to Dilative, or that other Motions in other Creatures intermix and Over-power the Natural motions, they alter the Exterior figure, and many times the Interior nature; but as for the Alteration of Earth, when as the Dilatating motions have Power over the Contracting motions, or the Rarifying motions over the Denfing motions, Dilatating and Extending motions cause the Contractions in the solid Earth to let go their Strength, and by Degrees cause them to quit their Power, and then the Dilatations become Strong, and Dilatate the Solid Earth to a Porous and Spongy body, as from Earth to Mud, from Mud to Slime, and from Slime to Water, which Water is some-

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what more than the Middle degree of Extenuations or Dilatations, which Dilatations have brought or wrought Flat matter of Earth into a Round circle, which before was a Lump or Ball of Earth, but if the Dilatations work beyond the Degree of VVater, which is to be Liquid and Wet, then they Extend from Water to Vapour, from Vapour to Air, from Air to Fire, for as the Circumferent lines Extend, they become Smaller, and the Matter to be more Rare, as to be more Rare than the Degree of Water, or the Propriety of Wet requires, and so becomes Vapour, which is less Wet and more Rare than Water, for Water in such a Degree of Circle Extenuations, Dilatations, or Rarifications, as to produce such a Substance to be Fluid, Moist, Liquid, and Wet, but beyond such a Degree it becomes less Wet as before that Degree, to be more and more Wet; but as I said, beyond the Degree of Water it becomes Vapour, from the Degree of Vapour it Extends, and is so Rarified, as to be Air, and from the Degree of Air it Extends so far as the Circumferent Lines become so Small with Extensions, as they become as Sharp as an Edge of a Knife, or such a thing, so as that Degree is next to the nature of Fire, as to have the Heat of Fire, for though the Degree is not beyond Air, yet the Air is Sulphury Hot; but it is to be observed, that this Sort of Air is like to Seething or Boiling water, for it is a Moist heat, like as a Sweating heat, and the reason is, that though the

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VVatery circles are extended to an Airy substance, yet they are not Dissolved, but if those Circle-lines extend farther, or more than the Quantity of Matter will afford or allow to give a Compass, those Lines being extended very Small, break into Pointed parts, for the Smallness of the Line causes the Figure of Points, when it is divided in Parts, and then the Interior nature and Lines are Dissolved, but if they extend not to a Dissolution, those Lines may Contract from the outmost Extention back to the former Degrees, as to return from Thin, Hot, Moist Air, to Thicker Air, from Thicker or Groffer Air to Vapour, from Vapour to Water, from VVater to Slime, from Slime to Mud, from Mud to Solid Earth; for as it did Dilatate, Extenuate and Rarifie, so in the Return it Contracts and Densifies; but this is to be observed, that according as those Motions are Slower or Agiler, so is the Alteration; also it is to be observed, that sometimes one Degree or Change will last Longer than the other Degrees, and sometimes some Degrees or Alterations change Sooner, and sometimes those Substances of these Metamorphosed Elements Dissolve in their Several changes, if other Figures, Creatures or Motions do oppose them; but these Metamorphosed Elements are Increasable and Decreasable, as many other Creatures are, and when the Interior nature is Altered, the Substance Dissolves into other Creatures.

CHAP. XXXIX.

Of those Motions or Figures, that turn Water to Snow, Hail, Ice and Frost.

Water being of a Soft, Fluid, Liquid, Moist, VVet substance, and being composed of a Circle-figure; is more pliant, and apt to be moved or wrought upon, than any other Creature or Substance, which is the reason that Cold and Hot motions seldom suffer Water to live in peace or rest, but often Transform and Metamorphose Water into several Shapes, and several Exterior figures; as for Cold contractions, they Draw, VVind, Twist, and Pull in the VVatery lines, and Circle-figure many several ways, making Water into Snow, Hail, Ice, and thelike, for when Cold contractions make Water Snow, they draw the Circle-lines of Water in Triangular figures, and when Cold Contracting motions make Water Ice, then they draw the Watery circles in Square figures, and when the Cold Contracting motions make Water Hail, 'tis made into a Lump or Heap-figure, for in Hail, the Circle-lines of Water are twisted and wound about on a Heap, or Hail seems to be made by drawing the Water-circles by a Round Circular motion into a Close Contracted Body, and when Cold contractions do freeze Dew, which is Water, they Surfle the Water-circles,

circles, which makes them Exteriously Rough or Uneven; for though Surfing is in the manner of a Round contraction, yet they draw onely the Parts to be Uneven; thus the Water-circles and Compass may be drawn from Round to Triangular, or from Round to Parallel, or from Round to many other several Figures, I will not say, by a Mathematical rule, but certainly Nature is beyond Art. Some may put the Question, why I should imagine that Ice, Hail, Snow and Frost, is made by such Motions into such Figures? My Answer is, that I observing the Nature of Dry cold, and the Nature of Moist and Liquid water, and the several Changes and Shapes of Transform'd water, it doth appear probable to my Human sense and reason, that Ice, Hail, Snow and Frost should be made according to my former Description. But, to conclude this Chapter, when the Hot dilatations are more Powerful than the Cold contractions, they extend the Watery-circles into their Natural figure and compass again.

CHAP. XL.

Why Snow is Rougher and Lighter than Ice or Hail.

THe reason, Snow is Lighter and more Rough than Hail or Ice, is, that Snow being of a Triangular figure, which is a Figure where the Lines are not Straight, nor the Points Equal

Equal in number, for Triangular-lines are Slope-lines, and the Points are Odd in number, whereas Square-figures have four Straight lines, and a just number of Points, and a Parallel line Straight, and two Equal ends or points; But a Triangular figure is not so, for though Three be a Plural number, it is an Odd number, as Two and a Single one, and a Triangular-figure being Uneven, causes it to be unsteady, not being Equally poised; besides, a Triangular figure cannot be so Compact or so United as any other Figure, which hinders that Figure from being Condensed into so Solid a Body as the Square or Round figure may be, and the Less a Body is Condensed, the Lighter the Body is, and the More a Body is Densd, the Heavier a Body is; but there be several Densities and Rarities, where some are Heavier than others, and some Lighter than others, according to the Degrees and Temperaments of several Substances, for the Nature of some Substance may alter the VWeight as much as the Motions can do, for there is great difference between the nature of VWater, Fire, Light and Air, and yet they have all Rare bodies; also there may be great difference between Several waters, Several airs, Several fires, Several lights, and the like; also there may be difference of Densing motions, and Rarifying motions, as some Densing motions may be VWeaker, some Stronger, some Swifter, and some Slower than others; the like for Rarifying motions.

CHAP. XLI.

Of Colours.

AS for Colours, there are Natural Colours, Accidental Colours, and Artificial Colours: Natural Colours are such as are Proper to each Kind, as also to each Sort of Creatures, as the Different Colours of the Several Elements, Minerals, Animals, and Vegetables; Accidental Colours are Metamorphosed Light or Air, or some Sorts of Loose and Rare Matter caused by Several Motions; Artificial Colours are made by Several Mixtures of Several Substances, and Several Motions. But this is to be observed, that all Colours in all Sorts or Kinds are made by Several Contracting Motions; also it is to be observed, that the Natural Colours of Minerals are more Various and Different than those of Elements, and the Natural Colours of Animals more Various and Different than those of Minerals, and the Natural Colours of Vegetables more Various and Different than those of Animals. Some are of an Opinion, that Colour is made onely by Light, but how can one and the Same Light make so many Several Colours as belong to every Kind and Sort of Creatures? Or how can Light be the Cause, that a Parrot is one Kind of a Pie-colour'd Bird, and a Peacock another Kind of a
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Pied Bird, whose Colours are not caused by Light but by Nature? otherwise, if a Horse get a Foal of his own Colour, it cannot truly be said, the Horse is the Cause of the Foal's Colour, but the Light, which is Ridiculous, and many Examples might be given to Cross this Opinion. But by reason some Colours are made by Perturbed Light, some Men have an Opinion, that all Colours are made that way; but such Colours as are Inherent, Light onely shews them to the Eye, but doth not make them in their Substance, for Grass is Green, whether the Eye seeth it or not, as much in the Night as in the Day, and the Darknes of the Night doth onely Obscure Colours, not Alter their Inherent Nature: for no Man can in Reason say, that the Sun is not of the Colour of Fire, when as a Dark and Black Cloud Obscures it.

But Natural and Inherent Colours are made thus: Motion making Lines of the most Facil Substance of a Creature, Contracts those Lines into Several Works or Figures, and according as those Lines are Drawn into such and such Figures, they cause such and such Colours; as for Example, when those Lines are Drawn or Contracted into such a Figure, it is Red, when into such a Figure, Blew, into such a Figure, Yellow, into such a Figure, Green; and when those Lines are Contracted partly into the Figure of Red, and partly into the Figure of Blew, it makes a Figure of Purple; and if they

they be Contracted partly into the Figure of Red, and Partly into the Figure of Blew, and partly into the Figure of Purple, it makes a Fourth Figure, which is a Fourth Colour, and so by the Intermixing of Several Figures, there may be made Infinite Colours; Likewise one and the Same Figure which is one Perfect Colour, may vary with each Particular Figure, which is a Particular Colour, and according as the Figures Differ, the Colours Change or Alter. As for Shadows of Colours, they are in my Opinion produced after this following manner: The Figure of Blew is one Perfect Colour, and the Figure of Red another Perfect Colour, but being Mixt, they make a Mixt colour; also Blew and Yellow make a Different Mixt colour from Blew and Red, and Blew and Green a Different colour from Blew and Yellow, and so we may Match Figures of Colours until a Man be Weary, but whatsoever hath Constantly one and the Same Figure in the Several or Single parts of other Figures, which are other Colours, produces Shadows in Colours, as Blew and Green, Blew and Red, Blew and Yellow, and the like, appear in Shadows of Colours, by reason one Particular figure of such a Particular colour is the Ground-work, that is the Ground figure, which is the Ground colour, and makes all the Figures and Colours, it is mixt with, to be partly of its own Ground-figure and Colour, and according as there is

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More or Less Mixture, the Shadows are Fainter or Stronger, and according as those Figures are Less or More Contracted, the Colours are Deeper or Paler, for those Colours, whose Figures are Closer contracted, and Rougher wrought, are the Darkest colours as nearest to Black, and those Colours, whose Figures are the Loosest and most at Liberty, are the Lightest or Palest, and those Figures of Colours that are made of the Purest Substance, and most Exactly Wrought with the Smallest Lines, produce the Brightest Colours.

Some say, Colours are made by Perturbed or Obstructed Light, but in my Opinion they are rather Broken Lines of Light, for if it were Perturbed Light, like as Over-agitated Air, or Troubled and Rough Waters, the Light would be onely Darker or Groffer; 'Tis true, those Perturbed motions may be the cause many times of Breaking the Light, which Broken parts Contracting into Several figures cause Several colours, every Particular figure being a Several work, and when those Several figures are Intermixed with each other, they cause Intermixed colours, for the Several figures made of the Pieces of Light are the cause of Several colours, and not those Pieces of Light without those Figures, for if those Lines of Light were not Contracted into Several figures, they could not make Colours; but if Airy Colours are not made by Broken lines of Light, but of Whole lines,

lines, then such Colours are made by Contracting the Straight Unbroken lines of Light and Air, which Contraction turns Light or Air into Colours, as Contraction doth Water into Snow, Ice, Hail, and Frost; But it is to be observed, that it is not onely the Contracting motions, that make the Difference, but being Contracted into such or such Figures, as for Example, when the Water-circle is Contracted into such a Figure, it is Snow, when into such a Figure, Ice, into such a Figure, Hail; so when the Lines of Light are Contracted into such a Figure, it is Red, into such a Figure, Blew, into such a Figure, Yellow, and when the Figures are Intermixt, there are Mixt colours.

But I will conclude this Chapter of Colours with an Answer to Two Questions, the First is, Whether all Creatures see all Objects alike? My Answer is, that if the Sight be Perfect, and without Imperfection, they do, but if the Sight be Imperfect, either by Nature or Accident, or be Over-powered, they do not, for a Squint-sight seeth Double, a Dazled sight seeth Glimmering, and a Dying sight seeth Fading, and many other Examples might be mentioned, concerning the Alteration of Sight, but Particulars are no Objection against the General, for surely an Eye is Nature's Press, to Print all Outward Objects that are Presented to it, the like are all the rest of the Senses, nevertheless there may be False or Defective Presses

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or Prints made by Error or Imperfection. Another Question is, Whether Colour be in the Eye, or in the Object, or in the Air? My Answer is, Colour may be made in All, as well in the Object, Air, and Eye, as for Example, the Colour of Grass is in the Object, and when the Object meets with the Eye, both the Form and the Colour of the Grass is Printed in the Eye, also the Several Colours made by Perturbed light are in the Air, but if those Colours meet in the Distance of the Eye, the same Colours are Printed in the Eye; also Colours may be made in the Eye without the Help of Outward Objects, as in Dreams, or by a Blow on the Eye, or in a Frensy, or in the Entrance into a Swoon, and many other ways, which would be too Tedious to Relate.

CHAP. LXII.

Of Airy Figures.

AS I said before, the Solid bodies moving in the Soft and more Porous bodies, make many Figures therein, some as Printed, some as Painted, others as Sculpture, as Cut, or Carved, in Wood or Stone, or Cast in Metall, or Moulded in Earth, some are as if a Man, or the like Creature, should Print themselves in Snow, others

others as if they should make themselves in Snow ; as for Example, as if a Man should stand, and let the Snow fall thick upon him until he were all covered over , there would be his Figure in Snow, or if he should lie down in Snow , there would be his Print ; so it is in Air , as we move from Place to Place , new Figures are made, and the former Figures Moulder or Melt out ; but according as the Air is, so they Last, or Decay , for if the Air be Congealed with Cold, Thickned with Gross Fogs or Mist , the Figures last the Longer therein, although in a mishapen Posture, like ruinated Buildings , or broken Statues, or like defeated Armies, here an Arm, or a piece of an Arm , or a Hand , and there Legs , here a Head, there a mangled Body ; but when the Air is Thin and Serene , the Print Dissolves as soon as the Figure Removes, and if the Air were as Solid as Snow , we should see the Figures as perfect in the one as in the other ; but the Air being very Thin and Porous , the Sight of the Eye runs thorow without stay or stop , taking no notice, like Water in a Sive , wherein nought can be contained , because there is no hold to keep the Water in from running out.

CHAP. XLIII.

Of Several sorts of Vapors.

THere are many sorts of Vapors , according to the several Temperaments of those several

veral Parts of Earth they are Attracted from by other Creatures or Substances, or Dilatated forth of each Part or Parts of Earth; but it is to be observed, that many Several sorts of Vapors, when they are Drawn, or Ascend to such a Degree of Heighth, they all Intermix or Joyn together, yet seldom so Equally, but that some one sort doth Predominate over the rest, whether Salt vapor, or Sharp, as Vitriol vapor, or Oyly, or Sulphury, or Bitumenous, or Fresh waterish, or Gross earthy, Heavy, or Light and Airy; but from these Several sorts of Vapors may proceed Clouds, Rains, Snow, Hail, Wind, Lightning, Thunder, Meteors, and the like, made by Several motions on those Several vapors; and as there are Several vapors proceeding from the Body of the Earth, so there are several other Vapors, from several other Creatures, especially Animals and Vegetables, all which Vapors are Rarer parts than Water, but not so Rare as Air or Fire; but as for Animals and Vegetables, as there is a Natural heat, and a Natural moisture, Proper and Inherent in all Animals and Vegetables, so there is a Natural vapor produced between each, as between the Heat and Moisture, and by such Motions as make Vapor, but the Inherent Heat, Moisture and Vapor in Animals, are made by the Vital and Radical Heat, Moisture and Vapour.

CHAP. XLIV.

*Of the Agreement and Disagreement of
Fire and Wind.*

HUMAN sense and reason may observe, that Wind is somewhat of the Nature of Fire, which strives to Dissipate all things it meets or encounters with, and not onely so, but even to Dissipate its own Matter, by indeavouring to Spread it self over all Substance or Matter it doth encounter; this is the cause of the Sympathy between Wind and Fire, for the Motions in Wind do assist the Motions of Fire, as for Example, when as Fire is applied to Wood, or any other the like Matter, when as the Fire hath not Force or Power enough to Rivet, Wedge, or Peirce, or Thrust in its Fiery points into that Matter it meets with, the Wind lends the Fire Force, like as an Hammer doth to Nails, so the Wind Beats in the Fiery points into the Dense wood or other Opposing matter; also Wind doth help to Spread the Fire into the Several parts of the Opposite matter; thus Wind doth lend Fire Force; but this is to be observed, that Wind and Fire doth as two great Monarchs, which Help and assist each other at first in their weak condition, but afterward they strive to Destroy each other, as striving which shall be Absolute; for Wind after it hath holpen the Fire to Kindle, then to Burn, indeavours
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to Dissipate both Fuel and Fire, for if the Wind can Dissipate the Fuel, it must needs Dissipate the Fire in the Fuel, for when the Fuel is Dissipated, the Fire Dies, having nothing to Feed or Live on; as for Example, a Man with his Breath, which is Wind, can blow Out the Flame of a Candle, and with his Breath can blow In the Flame again, that is, when he blows his Wind gently, he blows out only the Flame, as the Thinnest and Weakest part of Fire and Fuel, and when he gently or softly blows his Wind on the Substance of the Fire and Fuel, as the Snuff or Wick of the Candle, his Wind doth only Dilate the Fiery Substance, that is, the Rare or Thinner parts thereof, into a Flame again, but if the VVind be too strong for the Nature of Dilatation, the VVinds force Over-powers the Fires force, and Dissipates and Disperses the Ground, Substance, or Substantial ground of the Fires Increase or Continuance, which is the Fuel, as the VVick or Snuff of the Candle, the like for Groffer bodies, than the Snuffs of Candles are.

CHAP. XLV.

The Difference of Cold and Hot Winds and Vapours.

THe Difference of Cold and Hot Winds or Vapours, is made only by the Alteration or Change of Motions; as for a Proof, when as a
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Man Breathes upon his Hand, it feels Warm, and when a Man Blows upon his Hand, it feels Cold, the reason is, that some sorts of Dilatations make Heat, and some sorts of Contractions make Cold, for when a Man breathes upon his Hand, he opens his Mouth and Lips wide, through which his Breath Dilatates and Spreads abroad, but when as a Man blows upon his Hand, then he draws his Mouth and Lips into a Narrow Compass, which Contracts the Breath into a Cold Wind, as the opening of the Mouth and Lips doth Dilate the Breath into a Warm Vapour; by this we may perceive, that several Motions make one and the same Thing from the same Passages, to Work and Cause two several Effects; wherefore Sense and reason may perceive, that Sharp, Cold Winds, or Cold Vapours, are made by Contraction, for sure, those Winds that are Sharp and Cold, their Passage, from whence they issue out is Narrow, for though Wind may be made by Dilatating motions, yet that Wind may be Contracted after it is made, as by several Passages or Places, for Narrow Passages or Places may Contract several sorts of Temperaments or Substances; but this is to be observed, that Contraction of Passages causes Narrow, Long, and Pointed figures, in the Vent or Issuing forth, and Round in the Compass of the Figure, like Pins, Needles, Straws, Thorns, and the like, whereas Broad Passages give Room and Liberty to the Nature of the Substance that passes thorow; this is the cause

cause that Cold winds are Sharp, Pricking, Piercing and Dividing as Sharp Pointed Figures are, so that Burning Heats and Sharp Colds have a Resemblance.

CHAP. XLVI.

Of Wind.

WInd is wrought by Expulsive motions, and the Strength doth not proceed from the Thickness or Solidity of the Body, as many think it doth, conceiving it to be Contracted, or Prest-up Air, which if it were, it could not enter into such Small Porous and Narrow Passages as it doth; Wherefore, me-thinks the Strength should not proceed so much from the Solidity as the Agilness therein; for the quick Repetition doth so forcibly Press on each other, as upon necessity it must drive all Loose and Porous Bodies before it, but the farther it Blows, the Fainter is the Breath, for as the Repetitions grow Short, so Weaker; But as Wind is made by Dilatations, so it Divides by Expulsions.

CHAP. XLVII.

Of the Noise of Tempest and Storms.

AS I have said, that Sort of Air, which is made by VVatery-circles, is apt to Sound with

with every Motion that strikes thereon, by reason of the Hollow figure being Spherical. Likewise, this is the reason, Running Brooks make a Murmuring Noise; also this is the reason, that the Tides do make such a Noise in the Ebbs and Flows, Circles pressing or rather striking each other. Again, this is the reason, the Winds, when they Blow upon Airy or Watry-circles, by striking those Spherical circles cause it to Sound, and make a Roaring Noise by the Confusion it makes therein, for Wind, which is an Expulsive Vapour, doth not only strike those Watry-circles, but those that are Extended into Air, and when those Motions drive Circle against Circle, or Circle upon Circle,^{it} makes such quick Re-bound, which Re-bounds in Contracting and Crossing each other, make a confused Sound, which we call Tempestuous and Stormy; and it is to be observed, that a Tempest in the Air, and a Storm in the Water, and Thunder, is much after one and the same kind of Noise; but as Thunder is caused by the Expulsion of the most Extended Circular lines, so Wind is the Expulsion of the more Groffer circles, as when Lines break, which are Extended no farther than to Vapour; also these Expulsions, if they be not very Violent, cause Rain, for the Expelled motion being no stronger than to Press upon the Unbroken and Extended circles, either of Vapour or Air, drives it into the Watry compass, but when the Weather is Cloudy, it is not altogether so Hard Prest upon,

as to drive it into Perfect Water-circles, but to the next Degree as a Thick Vapour; and when the Weather is Inconstant, as we say, that is, some times Gross and Thick, and then it will be straight, Clear and Bright, is as the Pressure doth Abate or Increase, but unforced Rains, as I may call them, which is without a Violent constraint, is, when those Circles are drawn into a Watry compass in a Natural order, and by the Natural weight, being thicker than Natural air, that is, Original air, and not Transformed water, it falls down on the Earth; Likewise the pouring Showers make a Sound, by the force of the falling Drops, striking as they fall, but by reason the Water is divided by the Falling motions into Less bodies as it were, which makes not so strong a Sound, having less Compass, as the Tides, or Air having fewer Circles in a Body, as in Drops, which makes it of a less Bulk, and the Less the Body is, the Weaker and the Smaller is the Sound; but when the Watry lines are drawn into a Triangular figure of Snow, it falls silently without Sound, by reason the Watry line is drawn out of the Extended circle; Besides, that Figure is the Lightest Figure, by reason of the Inequality, for a Square hath four Equal parts, which makes a Just number, so an Equal ballance, which gives it a Steddy weight, and a Circle is Equally round from a Centre without Parts, which gives a Steddy weight, but a Triangular figure is in three Parts, which is no Just number, nor Equal ballance,

lance, nor Steady weight, which makes it of less Force, for being a Wavering figure, it cannot Press hard, nor Strike strongly, nor Fall heavy, but Flies lightly about.

CHAP. XLVIII.

Of Thunder and Lightning.

THunder and Lightning are caused from Watry circles, for when they are extended from Water to Vapor, from Vapor to Air, from Temperate air to Hot air, from Hot air to Fire, if those Circles^{be} extended beyond the compass and strength of the Line, they Break, which is the cause of Thunder and Lightning, for as soon as the farthest Extension of the Circle is Broken, those Extended parts do with an Extraordinary Swift motion Run, or rather Shoot forth into Bright Flaming flashes, as Spinning lines of Light, but when those Lines extend with a Great strength, they break into Small parts, which causes Thunder to follow Lightnings; for those Breaking parts sometimes Expulse disorderly, Beating and Striking upon those Circle-lines that are Unbroken, which Circles, being of a Porous, Compass'd, or Arched figure, cause a Sound in the Higher Region, whereto they are Ascended, for their Extension causes them to be Light, their Lightness to Ascend; but all Round figures being Concave within, and Convex without, do pre-

sent to the Ear, if they be strong, as Concave and Convex glasses do Objects, when presented to the Eye; thus Round figures cause a Hollow-sound, if they be struck, for the Concave draws those Motions in which are made Rebounds from side to side, and the Rebounds continue the Sound by the Eccho repeated, for Sound lasts longer in Hollow figures than in any other, and though I will not say, that onely Hollow figures make Sounds, yet I say, that no Sound can enter but through Porous figures, as the Ear is a Hollow figure, and the Ear is not onely Hollow but Circular, but Sounds are made in the Ear, or rather Enter, as Light and Colours in the Eyes, for Discord is Perturbed motion, or rather Close Antipathetical motions, and Harmony are Sympathetical and Regular motions; but the more of these Extenuating circles break, the more Lightning there is, and the Stronger they Break, the more Thunder there is, and the Harder they strike upon the Unbroken circles, the Louder is the Sound; but if the Circle-lines break onely afunder, and Extend, or Shoot forth into Straight lines without more Parts, there is onely Lightning without Thunder, but if those Lines break into more Parts, there is Thunder also; and when there falls Rain at those times of Thunder, it is when the Gentler motions of some of those Expulsed parts do not strike Hard upon some of those Unbroken circles, but Press upon them, which causes them to drive into a Less circle, and

and a Groffer line, until they return into the Watry compafs, where growing too Heavy for the Heighth, fall down towards the Centre of the Earth, as all Heavy bodies, if not Thick bodies under to bear them up, or Stronger motions than their Weight to hold them up; Thus in my Opinion is Thunder and Lightning caufed, and when it Rains, thofe Unbroken circles turn into their Nature again.

CHAP. XLIX.

*The Difference of Salt-water and
Fresh-water.*

THE Difference of Salt and Fresh-water is, that Salt waters Circle-lines are Flat and Edged, as a Knife, or the like, and in Fresh-water Round, which Edge makes it not lefs Smooth, although more Sharp, nor hinders the Extenuating compafs, but the Lines being Flat, make it more Solid, and fo give it more Strength, then the Fresh-water Circle that is Round, which makes it more Porous than Salt-water is, by the Experience of an Egg, and the like, which in Fresh-water will fink to the bottom, but very Salt-water will bear it up from finking, and according to the Strength, it will bear More or Lefs; but thefe Lines may Exteriously alter from Flat to Round, and Round to Flat, and never alter the Interior nature, as to break the Compafs, which is to Diffolve the

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the Circle or Ring, as I may say, which Circle-ring is the Interior figure ; but if Salt-water be Distilled it becomes Fresh, for that Art takes off the Edge.

CHAP. L.

Of the Alterations of Motions.

ONe and the same Degree of Animate matter may Change and Re-change the Natural Posture and Motion in one and the same Figure, but a General alteration of those Motions Proper to that Figure, Dissolves the Natural form of any one Particular figure, for a Figure moving by several Motions, proper to its Kind, must joyntly consent either by a Sympathy or Inforcement, to make a Dissolution as well as a Creation, but all Motions Work or Alter according as the Matter is, or Figure they Work on, or forced by Stronger motions to alter their Natural course; likewise Several and Contrary motions may work by Turns in one and the same Figure, by one and the same Degree of Animate matter.

CHAP. LI.

Of the Local Motions of Water, Air, and Fire.

IPerceive there be other Figures that have Local motions, besides Animals, yet it is partly

partly their Figures that are proper thereto; for though there is no Matter, but is Figured, yet all Figures move not of Themselves, and though all Figures are Moved or Moving, or both Moved and Moving, yet all Local motions move not after one and the same manner; but I here mean by Local motion, that which Naturally can move from place to place by its Interior nature, and Exterior shape, but if the Word be not right to the Sense, pray Pardon it, and take the Sense and leave the Word, and Christen it a New; but these Kinds of Local figures are Water, Air, and Fire, which Move after an Animal manner, although they have not the Shape of those we call Animals, yet they seem Animals by their Self-motion, as Moving from place to place, unless they be stopt by stronger Motions, or other Figures that are more Powerfull; the like of other Animals; as for Example, if one Man or more being Stronger, bind an other Man which hath not Strength nor Power to oppose or hinder them, he cannot Move according to the Property of his Nature and Shape. So likewise, if Cold Contractions be more Powerfull than the Extenuating Circles, it binds up the Water with Icy Fetters, whereby it cannot Move according to the Nature, nor Circular shape; So if any Man should go to a Place, and a High wall should stand betwixt him and that Place, he cannot pass unless there were a Passage, or that he can Clamber, which must be by Art, because there is no Footing, and to Jump over it he

he cannot, for it is so High that the Weight of his Body will Pull him down, before the Strength or Agilnefs of his Limbs shall Raife him over, and he cannot Flee over, by reason his Shape is not fitted thereto, having no Wings; so Water being stopt, and the Passage hindered by a thick Bank of Earth, cannot Move according to its Property; for it is proper for Water to move Descendingly, at least Straight forth; but when it Ascends, it is forced by other more Powerfull motions; So likewise it is proper for Air to move after a Level, Streaming, or Spreading manner; for Fire, to Ascend after a Peircing, Shooting, and Perpendicular manner, for these Elements do as other Animals do, for Man, Beasts, Birds, Fishes, their Local motions are Different according to their Shapes, for it is the Property of a four-legged Creature to Gallop, Trot, Pace, Run, Leap, but they cannot Flee, because their Shape is not fitted thereto, having no Wings; nor a Bird cannot Gallop, Trot, nor Pace, having not four Leggs to make Changes therewith; it is true, a two Legged Creature may Leap, Jump, Hop and Run; likewise those Fishes can neither Run nor Flee, that have not Wings nor Leggs; but those that have Mixt Shapes, have Mixt Local motions, as there be Fleeing Fishes, and Swimming Birds, and Running Fishes, and Swimming Beasts; Indeed, most Creatures can Swim, for most Shapes are fitted thereto in one Kind or another, but Mans Shape is such, as it can imitate most Various motions,

tions, though it is the Shape that makes them move Locally, but there must be such an Interior nature proper to such Shapes, ^{for} as Vegetables and Minerals, their Property is not to move Locally, that is, to have a Self Exterior motion; It seems there Interior nature and Exterior shape is not proper thereto, or perchance it is only their Exterior shape, and not their Interior nature, that makes them unfit to Move so, for we find their Interior nature to be more Active, than many of the Exterior shapes of Animals. But to return to those Elements, I treat of, as first Water, the Interior nature causeth it to be Liquid and Wet, the Exterior shape to be Fluid, both Agreeing by a Sympathetical Conjunction, give a Local motion to Descend, and Bear all before it, or with it, that is Loose and Unfix'd; So Fire, the Interior nature causes it to be Hot and Dry, the Exterior figure to be Sharp to Burn, both Agreeing by a Sympathetical Conjunction, giving it a Local motion to Pierce and Divide all it can enter into, if not Over-power'd; So Air, the Interior nature causeth it to be Soft and Pliant, and the Exterior figure to be Thin and Searching, both Agreeing by a Sympathetical Conjunction, give it a Local motion to enter through all Porous bodies in a Level line, and to fill up all Vacant places in other Figures, unless it be Thrust out, and Kept out by some thing more Powerfull. It is the Natural propriety for Bright Shining Fire to be Hot and Dry, to be Sharp and Burning, to move Ascending; and

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for Water, to be Liquid, Fluid, and Wet, and to Descend in a Descending line; and Air to be Soft and Yielding, to be Thin and Searching, to Move in a Level line, unless they be forc'd other wayes; for Fire may be suppress'd Downwards, and Water forced Upwards, and Air dispers'd; and Fire is not only subject to be Suppress'd, but Quenched out; for Water, if there be a sufficient Quantity to the Fire, on which it is Cast, will Over-power it; for the Innate motions, which cause Water to be Wet, destroy the Motions that cause Fire to be Sharp and Burning, and the Figure being Destroyed, that is, Disuniting those Parts, and those Motions, that Keep and Maintain those Parts in that Figure, the Property is Extinguished too, as we see many Animal figures do to one another, and Birds and Fish, and Men, destroy Beasts, Birds, and Fish, according as they have Strength, Power, and Advantage; for indeed the Dissolution of one Figure is the Cause of the Creation of another; sometimes the Materials of One figure make Many figures, and sometimes the Materials of Many figures make but One figure; and an Animal figure hath many several manners of moving Locally, and the Elements, as other Animals, do move sometimes Slower, and sometimes Faster.

C H A P. LII.

Of the Motions of the Sun and Planets.

THe Sun, and the rest of the Planets are questionless Created as other Animal creatures, and their Local motions are according to the Shape, as we see all Animals are; for a Worm cannot Run, but onely moves by Gathering up the Body from one place, and then Stretching it self out farther, or else by Rolling, and Winding his Body from place to place, nor Beasts cannot Flee as Birds, nor Birds cannot Trot, Amble, nor Gallop, as Beasts, because they have no Shape fitted thereto; for Birds want Four legs to Pace and Gallop, and Beasts want Wings to Flee: So the Planets move according to their Shape, turning about as a Spherical circle about a Centre; and if the Sun runs about the World with such Speed, as some Old Opinions are, it must turn as a Wheel about the Spoak, or Rundle as a Bowl in the Ecliptick-line; but if the Sun, as some Modern Opinions hold, doth not move out of his place, but is, as it were, Fixed, and that the Planets move about it in Circular ways, according to their Shape, then the Motions of the Sun are onely by Dilatation and Attraction, from which Light and Heat proceeds, and Vapor is drawn or suckt up.

CHAP. LIII.

All Heat is not onely Inherent in the Sun.

TIs not the Motion of the Sun that makes the Bowels of the Earth Hot, nor the Absence of the Sun that makes it Cold, but such Matter and Motions that make Fire and Heat in the Earth, and such Motions and Matter that make the Earth Cold; As for Example, Vaults or Cellars are Cold when the Surface of the Earth is Sultry hot, which shews, that the Sun doth not peirce his Fiery Beams or Heat so deep as a Cellar, much less can he peirce into the Bowels or Centre of the Earth; also in the Suns Absence, as in Night, the Air will be many times Hotter than in the Day; also in Winter, low Vaults will be very Warm, and sometimes Hot; also some Days will be Colder, and some Hotter, although the Sun be in one and the same Degree; This shews, that it is such and such Motions in such and such Temperament, that makes Heat, Cold, Burning and Freezing, which Causes or Motions are in Infinite matter, and not bound to one Particular Part or Creature, although some Particular Creature or Part may be more strongly indued with some Particular motions than other Creatures or Parts.

CHAP.

CHAP. LIV.

Of the Sun.

IT seems to Human sense and reason, that the Sun is a Globe or a Body of Fire, without any Mixture of any other Element or Creature; for were the Sun Mixt with any other Element, than its own Matter or Substance, the Effects of the Sun would not be so Distinct and Constant as they are; for Several sorts of Mixtures would cause Several sorts of Effects, and more Divers Changes and Alterations, than seem to be in the Sun; but what Fiery and Illuminated substance that the Sun is composed of, is not to be guess at in Human sense and reason, as whether it be a Rare or a Dens'd substance, or whether the Substance be Increasable or Decreasable, or whether the Substance be Nourished From or By other Creatures or Elements, or Consist and Subsist Of and In it self; but it is probable, that the Body and Substance of the Sun doth Consist and Subsist In and Of it self, more than other Elements, I mean, of it self as a Single creature, not being Mix'd with the Several temperaments and Several creatures of the other Planets, but hath no other Mixtures but what belongs to its own Proper Element, nor is troubled with other Inherent motions, than what belongs to its own Proper Figure, and that which makes the Opinion probable, is, that the Sun never
Changeth

Changeth his Heat, nor Lessens his Light, nor Alters his Nature or Proprieties, nor Changes his usual Motions of Attracting, Contracting, Dilating, Dissipating, Illuminating, Rarifying, Clarifying, and Constant motions in Spherical or Circle-lines; but though it be probable, that the Sun is a Purer Element in it self than other Elements, yet the Sun Trades and Trafficks with other Elements, or rather other Elements Trade and Traffick with the Sun, and other Elements do oftentimes Obstruct the Sun, as Dark clouds will obstruct the Sun's light, and Vapours and Wind will abate the Heat of the Sun's Rays; for though they can neither Quench out the Natural heat, nor Put out the Natural light of the Sun, yet they will, as we observe, obstruct the Sun's Effects; although not the Cause. But, to conclude this Chapter, although the Sun seems to be a more Purer Element than the other Planets, and that it requires less Trade or Traffick with other Elements than other Elements do with the Sun, yet we see, there is Trade and Traffick with all the Elements, and there must be Trade and Traffick amongst all the Creatures in Infinite matter, because Matter and Motion is Infinite. As for the External motions and effects of the Sun, they are Divers and Different, for the External motions are Contracting, Dilatating, Uniting, Dispersing, Disgesting, Retentive, Expelling, Illuminating, Reflecting, Exhaling, Nourishing, Burning, Destroying, and Millions that are too tedious to relate.

CHAP. LV.

Of the Moon.

AS the Sun seems to be a World, Globe, or Body of Fire, that is, of such Substance and Motions, as cause the Effect of Fire, so the Moon seems to be a World, Globe, or Body of Water, and the several Changes are as the Ebbing and Flowing of the Watery Globe, which makes the Circle of the Moon to be Fuller sometimes on one side than an other, but we could not observe or perceive the Ebb or Flow were it not for the Light of the Sun; and when it is High-tide, we say it is Full Moon, and when it is Low or Ebb, it is in the Wane, and as the Tide increases or decreases to or from our Hemisphere, we say it is in the first, second, or third Quarter; and if we do, we may observe, that the Light which the Sun casts or lends the Moon, is just such Light, as we name a Waterish light, that is, a pale Silver light, for Moonlight is like such Light, as when the Sun shines on Water; And it is to be observed, that the Moon seems More or Less light, as that side next the Sun is Swell'd fuller, or Ebb'd lower; and the Constant changes, are like as the Constant tides of the Sea, which causes Men to believe, it is the Moon which causes the Tides of the Sea, but the Learn'd men say, the Moon is a Body of Earth, or an Earthy Body, the reason

son of their Opinion is, that they can see through a Perspective Glasse, that there be Inequalities in the Moon, which they imagine to be Mountains, Rocks, Hills and Dales, and such like things; but it may be answer'd, that what they see by or through their Perspective Glasse, is only the Reflexion or Image of the Earth we Inhabit, and not the Substance of the Moon like as we see our Image in a Pond or Pail of water, so we see Mountains, Hills and Vallies in the Watery face or Watery body of the Moon; But some will say, this Opinion may be Contradicted in the Eclipse of the Sun, for if the Moon were all Water, it could not Shadow the Sun from the Earth, by reason the Sun would Shine thorow it; but this will not prove a sufficient Contradiction, for a little Watery Cloud will shadow the Bright Sun, wherefore so Great and Thick a Body of Water as the Moon, when it interposeth it Self between the Sun and Earth, must needs Darken and Eclipse the Sun's Light and Body; and as for the Reflexion of the Earth, the Deeper and Fuller the Body of Water is, the more Perfect it Represents the Figures or Images that are opposite to it. But to conclude this Chapter, as the Sun hath the Motions and Effects of Fire, so the Moon hath the Motions and Effects of Water, and I cannot perceive in Human sense and reason, but that there may be Worlds, Globes, or Bodies of Water, as well as of Fire, and of Fire as well as of Earth, and Worlds of Air as well as

as VVorlds or Globes of Fire, VVater, and Earth; As for the other Planets, if they be Bodies of Earth, surely they are not of so Gross a Substance of Earth as this we Inhabit, but are of a more Pure and Refined Earthy Substance, so as there is as much difference as between Porcelain and Ordinary Earth: But this is to be observed, that the External motions and effects of the Moon are Dilations and Overflows.

CHAP. LVI.

Of the Planets.

TO the Conceivingment of Human sense and reason, the Sun is a Fiery Globe or World, or a Globe of Fire, the Moon is a Globe or World of Water, and so is the Star named *Venus*, the other Planets are Globes of Air and Earth; now the Question will be, whether these Globes or Bodies be Pure of themselves, as having no Mixtures, as not being intermixt with other Creatures, as the Globe of the Earth we inhabit is, having innumerable several Creatures Created and Produced within it, and partly of it; but Human sense and reason cannot possibly resolve this question, because those VVorlds or Bodies, as the Planets, are not subject to the Knowledge of Human sense and reason, but yet Human sense and reason may and doth perceive so much, as to know that there is Commerce and Traffick between and amongst these
 I i Worlds,

VVorlds, Globes, or Bodies that are named Planets. But to conclude this Chapter, those Planets are Bodies which are Pure, as only of one Substance, as being Single Creatures without mixture of other Creatures, either for Creation or Habitation, but their Intercourse is as Passengers, or Travellers, not as Inhabitants.

CHAP. LVII.

All Creatures are Intermixed or Joyned, or have Commerce with each other.

There is not one Creature whatsoever, but is either Intermixt or Joyn'd, or Commerces or hath Intercourse with other Creatures, yet the Intermixing which is most difficult to be Separated or Divided, is Separable or Dividable in Nature without each others Destruction, yet Nature cannot Divide the Inherent figure or form of any one Creature, without a Dissolution of that particular Creature, for though Nature which is Animate motion, can Divide several Creatures Intermixt, yet it cannot Divide one and the same Intire Creature, which it hath made, without a Dissolution, but those Creatures, that only are Joyned, or have only Commerce, are more easily Divided, but those Creatures, whose Intire and Innate figures or forms are Intermixt, the Animate motions cannot Divide without a Dissolution of the Creature commixt of two or more Sorts; as for Example,

ample, a Mule, which is a Mixt sort of Creature, as between a Horse and an Ass, Animate motion cannot Divide each Sort without the Destruction of the whole Creature; but for such Intermixtures, where their ^{Interior} Animated forms or figures are not Intermixt, those may be Separated without a Total destruction of either Bodies, Forms, Figures, or Natures; as for Example, Vitriol and Salt from Water, and Water from each; as also some sorts of Heats from some sorts of Bodies, also several Parts from several Bodies, and yet not Destroy the Interior nature; as for Example, that Creature, named Man, may have all his Exterior parts, as Hands, Arms, Leggs, Nose, Lips, Eyes, and the like, divided from the Body, and the Interior Nature, Parts and Motion remain Perfect, according to his Nature and Property; The like for other Animals, as also Vegetables, and so for all Creatures, according to their Kinds and Several Sorts.

C H A P. LVIII.

*Of the Temper of the Four Seasons of the Year,
as Spring, Summer, Autumn, and Winter.*

TO Discourse of several Seasons of the Year, which is divided into Four Parts, as the Winter, Spring, Summer, and Autumn, is easie, but to discourse of the Several Changes, and Temper of the Weather or Elements, and

every Day or Hour, is not to be done; the like for the Temper of Mens Bodies or Minds, which are as Changeable; but for the several Seasons, the Sun causes Different effects, as for the Winter, the Sun, or Sun's Rays, having not that Powerful heat, as it hath in the Summer, by reason the Sun is more Oblique, or at a Farther distance from that Region or Part of the Earth, where Winter is; for the Distance of the Sun causes Winter, which Distance causes his Heat to be so Weak, as it cannot Clarifie or Purifie the Gross vapours, that arise from the face of the Earth, or those that are made in the Lower Region of the Element of Air, which causes the Air to be Thick and Gross; also it causeth Clowds and Rain, and the Climat or Region being Cold for want of the Sun's Near Presence, causes Frost and Snow, for the Sun's Absence, Distance, and Weakness gives a Freedom for the Cold motions to work more Powerful; but in the Spring, upon the Sun's Return, there arises a Dispute between the Hot motion proceeding from the Sun, and the Cold motions in the other Elements or Planets, which causes the Elements not to be Constant, but Various, some Days will be Fair Sunshining Days, some Days Clowdy and Rainy, and some Days Frost and Snow, and sometimes in one Day it will be Fair, Clowdy, Rain, Snow, Freez and Thaw, all in the compass of fourteen or fifteen hours, such Dispute will be amongst the Motions and Tempers of the Elements; but

out when as the Sun hath gain'd the Power from the Less Elements, he hath a free Access to the Earth, whom he Imbraces, Warms, Comforts, and Co-operates, and begets Young Creatures; but the Sun, the Nearer he comes, the Stronger is his Heat, and from a Comfortable heat he becomes Burning hot, in which Degree he is an absolute Conqueror of all Exterior Cold motions, Separating and Vanquishing all Cold Tempers and Motions in the Loose Elements with Thunder and Lightning, but after his Strength is spent, he begins to Retire, which Retiring time is Autumn, in which time he begins to lose his Strength, and so his Effects become Weak by Degrees, by which the Cold temper and motions of Cold elements become more Strong by Degrees, and in the Winter season they are in full Power; But the Sun Attracts more Vapors in the Spring than his Heat can Disgest, which falling back upon the Earth half concocted, cause many Diseases amongst Animals, and Destruction of young spruting Vegetables, as also the Inconstancies of VVeather. As for the Summer, the Sun being Perpendicular, or near that Degree, his Fiery points or motions peirce into all those Creatures they can take hold of, as also Inflame the Air so much, as it Burns and Dissolves many Creatures; for the Rare Air being full of Hot Fiery motions, Intermix with the Rare Vital spirits of other Creatures, by which Mixture they are Destroyed, becoming Unnaturally Hot and Burning,

ing, but in the Autumn, when the Sun retires, he leaves the Air and Elements VVell and Equally Tempered; for if the Animal creatures of the Earth be Diseased or Die, those Diseases, or Distempers, or Deaths, are not so much caused by his Motions or Effects on their Bodies, as by their Excess of Luxurious feeding of the Delicious fruits of the Earth in this Season; but this is to be observed, that the Autumn is Warmer than the Spring, although he be in the Equal degrees of his Motions, and Heighth or Distance; the Reason is, that the Earth in the Season of Autumn is like to the Hearth of a Chimney, which after a Great fire will retain a VVarm heat a Long time after, and in the Season of the Spring the Earth is like a Chimney-hearth, that hath not had Fire on it of many months, where the Hearth of the Chimney will require some Constant time of Fire, before it be thoroughly Heated, or Hot; and this is the Reason that the Spring is Colder than the Autumn, also that the Air and Earth is Coldest just before the Opening of the Day, or Approach of the Sun's Light, than any time of the former part of the Night, because the Sun hath been Absent all Night; for though at some times, some Nights will be very Hot, yet that Heat proceeds rather from the Natural heat from the Bowels of the Earth, than from the Natural heat from the Rays of the Sun; for the Body of the Earth hath a Natural heat as well as the Body of the Sun hath, and when as both
their

their Heats dilatate from each others Bodies, and Meet and Intermix together, the Medium becomes insufferably Hot to those Creatures, that Live upon the Face of the Earth, or in the Air; But it is to be observed, that when as Cold Vapours issue from the Earth, they allay the Hot influences or Effects of the Sun.

CHAP. LIX.

Motion doth not Work in all Creatures Exactly.

THe Animate matter and motions do not alwayes Work or Move Exactly, either in Forming or Shaping of several Creatures bodies, or Moving Exactly in every Particular Mind; as for the Body of that Creature named Man, the Proportion of every Line or Lineaments, for some have Well-shap'd Hands, Faces, Leggs, Feet, and Ill-shaped Bodies, and some have Well-shaped Bodies, and Ill-featured Faces, and some have Exact featured Faces, and Foul complexions; Thus some have one Part of the Body ill-shaped, and the rest well-shap'd, and some Part of the Body well-shap'd, and the rest of the Body ill-shap'd; and as for the Body, so for the Mind, for some have Clear Understandings, and yet Cloudy Judgments, and some have Subtil Conceptions, and Weak Memories, and some have Ready Memories, and no Fancies, and many the like Examples may be given. Likewise some have very Handsome
bodies,

bodies, and Deformed minds, and some Excellent tempered and Exact Moving minds, and Deform'd bodies. By these Examples, Human sense and reason may perceive, that the Animate motions do not at all Times and in all Creatures Work or Move either Industriously or Exactly, for some Times, and in some Bodies and in some Minds, the Sensitive and Rational motions seem Lasse at the beginning of Creation, or Idle in the midst of their Works, or seem Tired before the finishing of a Creature. Thus motion moves sometimes Slowly, sometimes Carelessly, sometimes Falsly, or Erroneously. But it seems to Human sense and reason, that the Cause, that Animate motion Moves or Works so Imperfectly, as seldome to Form any one Creature Exactly, is, that Infinite motion hath Infinite matter to Divide and Compose into Infinite figures, which requires Infinite of times, so that Motion hath not Spare time as to Move or to Work so Curiously, as to Shape and Form every particular Part of every particular Creature so Exactly, as to Form them Mathematically or Geometrically, so as when any Creature is so Exact, as no Fault can be found, it seems rather a Work by Chance, than any Design in Motion to Work so Exactly; But to conclude this Chapter, it would be a Thing or Work above Nature, and to be Accounted a Miracle, if any Creature should be made so Exact as somewhat were not amiss either in Body or Mind.

THE



THE
P R E F A C E

OF

THE SIXTH PART,
To all Learned PHYSICIANS.

Most Reverend and Grave Fathers of Health,



PRESENT this *Work* unto your
Sage Judgments, your Prudent
Practices, your Great Experi-
ences, your Studious Observations,
your Miraculous Cures, and Hum-
bly lay it on the Tables of your Studies, in Hope,
some Spare Time may invite you to read therein.
I dare not Commend it, lest you should Disprove
it; for as your Wisdoms Value it, so it is Good or
Bad.

I am to be Pardoned, if I have not the Names
and Terms that the Anatomists Have or Use; or
if I have Mistaken some Parts in the Body, or
Misplaced

Kk

The PREFACE.

Misplaced any; for truly, I never Read of Anatomy, nor never saw any Man Opened, much less Dissected, which for my Better Understanding I would have done; but I found, that neither the Courage of Nature, nor the Modesty of my Sex would Permit me. Wherefore it would be a great Chance, even to a Wonder, I should not Err in some; but I have seen the Intrals of Beasts, but never as they are Placed in their Bodies, but as they are Cut out to be Drest, and in the Shambles; and perchance I have seen, passing by the Shambles, a Cruel Butcher cut the Throat of a Beast, or Rip up the Body, where the Guts and Garbage did burst out; but that gave me not much more Knowledge, not seeing how they Lay in their Bodies. And though it is a Usual Custom for Ladies and Women of Quality, after the Hunting of a Deer, to stand by, until they are Ript up, that they might Wash their Hands in the Blood, supposing it will make them White, yet I never did it; but, as I have said before, I have seen the Intrals of Beasts out of their Bodies, which Intrals, I have heard, are much like a Man's, especially a Hogs, so that I know, Man hath a Brain, a Heart, a Stomach, Liver, Lungs, Splene, and the like; yet these I never Viewed with a Curious and Searching Eye, but as they have Lain in some Vessels; and as for Bones, Nerves, Muscles, Veins, and the like, I know not how they are Placed in the Body, but as I have gathered Several Times from Several Relations or Discourses, here a Bit, and there a Crum of Knowledge,

The PREFACE.

Knowledge, which my Natural Reason hath put together, of which Meat my Wit, like an Unexperienc'd Cook, hath ventured to Dress; if it Pleases the Palats of my Readers, I shall account my Time not Lost; if not, it is not the first Dish of Good Meat that hath been Disgusted.

This part of my Book, which Treats of Diseases, is to Express, what Irregular Motions and Mistemperaments make several Diseases, as also the Ground and Fundamental Diseases that are Incident to Man's Body; but I shall not trouble you in this Book with many Physical Rules, or Cures of Diet, or Medicine, but some few I shall mention: The truth is, such Treatments are Improper for this Book; besides, they require a Whole Volume by themselves; But my Chief Design in this Book is onely to Treat of some Particular Diseases, which are most Common, and Ordinary amongst Mankind, but as for the Practice and Cures, I leave them to Physicians.



PHILOSOPHY.

PART VI.

CHAP. I.

Of the Motion of the Body.

Physicians should Study the Motions of the Body, as natural Philosophers Study the Motions of the Heavens, for Several Diseases have Several Motions, and if they were well Watched, and Weighed, and Observed, they might easily be Found out Severally; and as they take Compass of the Heaven, and Stand upon the Earth, so these may take the Degrees of the Disease, although they Dissect not the Body. Thus natural Physicians may know, when the Sun of Health will be Eclipsed by the Shadow of Melancholy, which gets betwixt the Body and Health; And natural Physicians may come to know the Thoughts, as they the Stars, by Studying the Humors of Men, and may know what

what Influences they may have upon the Body, and may know the several Changes of their Humor, as they the several Changes of the Moon, that the several Changes of the Humor cause the Blood to Ebb and to Flow, as the Tides of the Sea ; Thus they may make an Almanack of the Body, for to shew what Weather and Seasons there will be, as great Tempests and Storms of Wind-colick ; whether there will fall upon the Lungs great Rheums, as Showers of Rain, or whether there may be Great and Hot Fevers, or whether there will be Earth-quakes of Shaking-Agues or Cold, and Numb-Palsies, or whether there will be Dearth's of Fless, and so leave Bones Bare by the Droughts of Hectick Fevers, or whether the Over-flowing of Moisture, which causes Dropsies. Thus, if we could find the Several Motions in Several Diseases in a Body, as surely might be done by Observations, and Study, and could find out the Several Motions by the Several Operations in Physick, we might surely so Apply them together, as to make Animals, though not Live Eternally, yet very Long ; And truly, I think this Book of Philosophical and Physical opinions, may give great Light to this Study. Physicians must first take care in their Prescriptions, to prevent Errors of mistake, before they Apply Remedies to Cure.

CHAP. II.

Of the Frame of Man's Body.

I will first Discourse of the Orderly course of Nature, which is, to have a Perfect Shape according to the Kind, or Sort of Figure it was Created to, that is, like an House to be Well Built; Next, to have it Strong and Firm; Thirdly, to have it Commodious; Fourthly, to have it Well Furnished; Fifthly, to have it Clean from Dirt or Rubbish; Sixthly, to Keep it in Repair; Seventhly, to Prop it from Falling down with Old age, the Pulling it down by some Evil accident, or Burning it by Fevers, or the like, or Drowning it by Dropsies. And though I may Similize it to any Figure, yet I only imploy it to Mankind, that is, to have a Perfect and Upright Shape, a Clear Strength, Sound Parts, Plump and Fat, Clean from Gross Humours and Obstructions, to Keep it Healthfull with Wholesome Food, to Help Nature with Cordials or Physick, Death being the Destruction.

CHAP. III.

Of Natural Self-tyranny.

Motion doth not only Divide matter Infinite, but Disturb matter Infinite; for Self-

Self-motion Striving and Struggling with Self-motion, puts it Self to Pain; and of all Kind of Motions, the Animal motions Disturb most, being most Busie, as making VVarrs and Divisions, not only Animal figures against Animal figures, but each Figure in it Self by Discontents and Dislike, which Discontent makes more Pain, than Ease or Pleasure, or Tranquillity, by reason of Irregularity; but Motion is an Infinite and Eternal Tyrant on Infinite figures, for as Motion makes Figures, so Motion dissolves Figures, which makes Infinite and Eternal matter Eternally Restless; for the Extract of Infinite matter, which is an Animated matter, which Animate matter is Self-motion, and makes the Inanimate part of matter so Restless too by Working thereon. Thus the Only and Infinite matter is a Tyrant to it Self, or rather I may say, Infinite is a Tyrant to Motion, and Motion to Figure, and Eternity to all. For though Infinite, Eternal matter, Motion, and Figure are Individable, yet they are all as Separated in Aspiring; for Motion, although it is but an Effect of Matter, yet strives for Absolute Power over Matter and Figures; and Infiniteness strives for the Absoluteness and Power over Matter, Motion and Figure; and Eternity strives for Absolute Power over all. Thus the Effects strive, to have Power over the Prime Causes, which is the Only matter; for if there were no Matter, there could be no Figure, nor Motion, nor Infinite, nor Everlasting; the like do the Minor effects

effects over the Minor causes, for Effects are Causes of Effects.

CHAP. IV.

Of the Understanding, Sense, and Reason.

There is no Sense without Reason, nor no Reason without Sense, and if Sense and Reason are not General throughout Infinite matter in Infinite Creatures, it is a Particular gift from something, which is Transcending the Infinite matter, which is Infinite nature, as God, a Deity; but if Reason be a Particular gift to some Particular Creature, as namely Man, Nature, or the God of Nature, would prove both Partial and Finite; as for Infinite Nature, she seems to be Inconfined, and for the God of Nature, He can have no Bias.

CHAP. V.

The Two Ground-Motions in the Rational Animate Matter.

The Rational Animate matter moves, as it were, Two ways, for it hath Different motions, Internal and External, like as the Sensitive matter, which moves the Inanimate part of Matter Internally and Externally, according to the Nature of each Figure; as for Example, the Creating of a Figure is One way, and the Several

ral Actions of the Created is another way ; the like doth the Rational Animate matter , it first Runs into Figures , and then Moves Figuratively ; Again, some Figures being Stronger than others , will force the Weaker figure to move after their Manner.

CHAP. VI.

The two Chief Parts belonging to Man, are the Head and the Heart, wherein Reside the Rational Spirits.

THE Head and the Heart are the two Residing parts for the Rational Animate matter to Move more Variouslly and Agilly in, making Passions in the Heart, and Reasons in the Head ; and whensoever those Parts be Disaffected , the Understanding and Passions are Disordered, and many times so , as never to be Rectifi'd ; but sometimes this Disorder comes by the Misworking of the Sensitive Animate matter, and sometimes by the Wrong Steps and False Measures of the Rational Animate matter ; but though the Animal Knowledge or Reason be Disordered , yet not Extinguished , unless the Animal Sense be absolutely Altered , which is to Die ; for though they Move not Regularly, yet they Move after an Animal manner ; As for Example, a Man, although he Goeth not Upright , according to his Natural shape , but Creeps upon his Hands and Knees , or that he is forced to

Roll from Place to Place, having neither Arms nor Legs, yet he Moves in an Animal manner, and partly to what his Natural shape is, for these Forced Motions, or Want of some of the Outward parts, Alter him not from being an Animal, nor yet from being a Man, unless all the Sensitive motions, which Naturally belong to their Figures, be Altered, and then he turns from that Kind of Creature.

CHAP. VII.

*Whether the Passions are made in the Head
or Heart?*

SOME are of Opinion, the Passions are made in the Head; others, that they are made in the Heart; for my part, I am of the Latter Opinion, that is, that all Passions are made in the Heart, as Love, Hate, Fear, Anger, Grief, Jealousie, Envy, Malice, and the like; and also the Will, and Opinions, which are a Kind of Passions; and that Imaginations, Conceptions, Fancies, Understanding, Judgment, Memory and Remembrance, is made in the Brain, and that, which we call Thought, or Animal Knowledge, is made both in the Brain and Heart; for if either of these two Parts be Wounded, that Knowledge Dies, as both the Sensitive Knowledge and Rational, both being that which we call Thought, the one belongs to the Body, the other to the Mind; for Touch is a Weak thought,

thought, and Thought a Strong touch; and my Reason why I think, that the Passions are Created in the Heart, and not in the Head, is, First, That Passion and Judgment seldom agree, for when we have the Passion of Fear, or Anger, or the like, all the Motions, that work to those Passions, are felt in the Heart; for if we do observe, we shall find all Passions arise from the Heart, and all the Parts near thereto will be Disturbed, when in the Brain we find no Violent motions at all, perchance the Sensitive part may be Disturbed, as to make the Head ake as with a General Distemper. Secondly, There are oftentimes Passions felt, as it were, in the Heart, without any Knowledge or Thought of it in the Head, as when we shall be Sad, and Angry, and Fearful, and know no Reason why. Besides, Objects many times Pass by, or, as it were, Steal through the Senses, and likewise Creep through the Brains, and raise a Passion in the Heart, without any Notice taken thereof, or Knowledge how it came Therein. Lastly, That, although there is a great Sympathy betwixt the Passions and Imaginations, yet they are not after one and the same Manner of Motions, which sheweth, they are Created in Several figures, the one in the Triangular Heart, and the other in the Spherical Brain, and the Different shapes of the Head and Heart, may be one Cause, that makes the Difference betwixt Passions and Imaginations, as well as the Different motions. But to prove Passions are made in the Heart, and not

in the Head, is, that when the Brain is Distempered, and Mad, as we say, yet the Passions may be Free and Regular; and Love and Hate, which are the two Chief Passions, may be Constant to the Objects they were placed on; thus the Mind or Soul, which is the Rational Animate matter, lies as much in the Heart as the Head, as also in all the other Parts of the Body, but the Different parts cause Different motions, both in the Sensitive and Rational matter.

CHAP. VIII.

Of Different Passions in one and the same Part.

AS for Passion, we shall Love and Hate at one and the same Time, but not one and the same Thing at one and the same Time, for that is impossible. But Different Passions are made according to the Subjects or Objects they Move by or to, yet the Rational Animate matter, which Createth Passions, may Move partly Sympathetically, and partly Antipathetically, at one and the same Time; As for Example, a Man may be in Love with a Woman for her Beauty, or Wit, or Behaviour, and yet have an Aversion to her Bad qualities; but a Man cannot Love the Person of a Woman, and Hate it at one and the same Time; but to the Creating of those Passions that Sympathize, as Love, and Hope, and Joy, and the like, the Rational Animate matter

matter doth as it were Spread and Dilatate it
 Self; but for those Passions that Antipathize,
 it Contracts it Self more together, as in Hate,
 Fears, Jealousies, Doubts, Envy, Spight, and the
 like; and when two or three Passions arise at
 one Time, as a Passion of Grief for my Friend
 that is Kill'd, and a Passionate Hate to his Mur-
 therer, or the like, then the Rational Animate
 matter Divides it Self, partly Moving after one
 manner, and partly Moving after a quite con-
 trary manner, and so may Divide into as many
 Parts, and after as many several Manners, as
 their Place or Quantity will give way to. But
 when we Love what was Hated, or Hate what
 was Loved, then the Rational Animate matter
 Changes its Motions towards such a Subject or
 Object without a Division. But when they
 Move Disorderly, the Passions are like a Tem-
 pest at Sea, Passions beat against Passions in a
 Confused manner, that is, the Motions of Pas-
 sions cross one another, Distempering the whole
 Body, causing the Senses to Mistake with the
 Violence thereof; Likewise in the Brain there
 may be Opposite motions in one and the same
 Degree of Animate matter, either Rational or
 Sensitive, either by an Alteration of Motion in
 one and the same Part of matter, or by Divisions
 moving in Parts, but when the Rational Ani-
 mate matter Moves in a Regular division, and
 the Measures of Time, and the Notes of Moti-
 ons skilfully Set, and rightly Kept, that is, Cu-
 riously or Neatly, and Carefully ordered, then
 there

there is an Harmony, which Harmony is a Quiet Mind, Gentle Imaginations, a Clear Understanding, a Solid Judgement, Elevated Fancies, and Ready Memory ; but when this Rational Animate matter moves Disorderly, there arise Extravagant fancies, False reasons, Mis-understandings, and the like.

CHAP. IX.

The Affinity betwixt Imaginations and Passions.

IT is the Rational Animate matter that makes Passions, and not the Sensitive Animate matter, for the Senses only present the Objects, the Rational the Passions ; which shews, the Rational Animate matter is as much in the Heart, as in the Head, and may be of the same Degree of Strength, although they Work Different wayes, as being Different figures, yet there is such Sympathy with each other, whether by Recourse or otherwise, as Passions will Raise Imaginations, Corrupt Judgement, Disordered Reason, and Blind-fold Understanding ; And Imaginations will raise Passions, as Fear, Love, Hate, Doubt, Hope, and the like ; which shews, that the Rational Animate matter in the Head and Heart hath such Affinity as the Sensitive Animate matter hath in the Stomack and Head, as the Pain in the Head will make the Stomack sick, and a Sicknes in the Stomack will make the

the Head ake, I will not say at all times, but most commonly, neither will Imaginations at all times raise a Passion, nor a Passion an Imagination, but very often. But as there is Affinity between the Passion and Imagination or Thoughts in the Head, so between the Appetites and Passions, as also the Imaginations, but the Appetites are made by the Sensitive motions, and the Passions and Imaginations by the Rational motions. Likewise the Sensitive motions in making of Appetites do so resemble the Rational motions in making of Passions, as there is Little difference, only the Sensitive matter and motions make Appetites on the Inanimate matter, and the Rational makes Passions on its own Substance.

CHAP. X.

Of the Brain.

THe Brain is not the Cause of Knowledge and Understanding, for a Bird that hath but a Little Brain, seems as Understanding, if not more, than a great Beast, as an Ox, or the like, which hath far Greater quantity of Brain; but perchance the Bird hath more of the Rational Animate matter in his Little Brain, than the Beast that hath more Brain, for the Rational Animate matter Moves within the Brain, not upon the Brain, for so Works the Sensitive Animate matter, the Brain being made of the Inanimate

animate part of matter ; for when the Brain is Defective, it is caused by the Sensitive Animate matter, not the Rational Animate matter ; yet oftentimes the Sensitive Animate matter Disorders the Motions of the Rational Animate matter, as we shall see in Distempered and Sick bodies ; Likewise the Disordered motions in the Rational Animate matter, will Disorder the Sensitive motions , as we shall see by Troubled minds.

CHAP. XI.

Of the Multitude of Figures in the Rational Matter, in the Brain, and Heart.

THe reason why we may have Millions of Several figures in our Memory at One time, so likewise raised up to our Remembrance, when we can receive but One Perfect figure through our Senses at one time, is, that the Passages, for Outward objects to enter, are so Straight in all Animal figures, as that but one Object can take Place therein, I mean as being Perfectly distinct ; for the Passages being Straight, many Objects entring at once, make a Confusion, at least a Disorder ; for if more than one Object be Presented at one Time to any Particular sense, they are receiv'd but by Piece-meals, as in the Small parts, and many times the Divided parts are so Mixt together, as no Piece is perfectly Seen or Heard, or Smell'd, or Tasted, or Touched ; besides,

sides, the Passages being Straight, the Sensitive Animate matter cannot work so Regularly, having not Liberty; for it is not with the Sensitive Animate matter, as with the Rational Animate matter, by reason the Sensitive Animate matter works upon Gross materials, as upon the Inanimate part of Matter, which makes, that it cannot Move so Nimble, nor Divide into Parts so Suddenly, especially in a Straight passage, as the Rational Animate matter can, which Moves only in Number and Measure, without any Dull or Inanimate ^{matters} mixture, for the Rational Animate matter can Figure out the whole World, and Millions of Several figures therein, Sooner and Swifter than the Sensitive Animate matter can Print one Figure upon any of the Senses; and not only those Figures that the Sensitive Animate matter Presents, or hath Presented, but makes those Figures that were never Presented, as those we call Phantasms; and as I said, the Rational Animate matter hath more room to Move in, not being Incumbred with the Inanimate matter, when as the Sensitive Animate matter is Incumbred with the Ear, Eye, ^{Inanimate in the} Nostriis, Mouth, or Pores of the Flesh, so there may be a greater Quantity or Proportion of that Rational moving matter together in a Body, or Bulk, as I may say, than of the Sensitive Animate matter in the fore-said Passages, and according as the Quantity of the Rational matter is, there is the more Knowledge, and Clearer Understanding, the Quicker Wit, and the Live-

lier Memory, the Fresher Remembrance, and the more Multiplicity of Thoughts, for it is not only the Largeness and Extent of the Place wherein the Rational matter Moves, that makes the more Knowledge and Understanding, and the like, but the Quantity of the Rational matter; for a Great Head may have but a Little Wit, or Dim Understanding, and a Little Head a Quick Wit, and Clear Understanding, if the Little Head be full of this Rational Animate matter, and the Great Head be empty thereof, but if the Room or Place be Large, and filled with this Sort of Animate matter, according to the Bigness, that Creature will be very Knowing, Understanding, and Ingenious; for imagine, that all the Heads of Mankind were put into the Compass of One Head, and sufficient Quantity of that Rational matter therein, that Creature, whatsoever it were, would have not only the Knowledge of every Particular Brain joyned together, but that Knowledge and Understanding would Increase as Use-money, for that Bulk or Banck would Multiply being put together.

CHAP. XII.*Of Thoughts.*

MAny wonder what Thoughts are, and how such Millions can be within so Little a Compass as the Brain. I answer, that a Little quantity

quantity of the Rational Animate matter may make Millions of Figures, which Figures are Thoughts ; As for Example, from Eight Notes Millions of Tunes are made, and from Twenty four Letters Millions of Several Languages may be made ; Likewise One Lump of Clay may be moulded and formed into Millions of Several Figures ; and like Pictures, Many Figures may be drawn in One Piece, and every Figure in a Several Posture ; Likewise a Little Picture will represent so Great an Army, as would take up many Acres of Land, were it in a Pitched Field ; again , a Globe no Bigger than a Head, will represent the Whole World. Again , say some, how is it possible there should be so many Several Thoughts in the Head at One time, and how from one Thought should there arise so Many of a Sudden , and at some times so Extravagant as to have no Coherence therein , at other times very Methodical and Sympathetical ? To the first I answer , how many Several Postures may a Man put his Body into at One time, nay, I may say One Part of the Body ? for how many Several Postures may the Face draw it Self into at One time ? Secondly, I answer , that many Several Wheels will Move with One Motion, nay, with One Kind of Motion Several wayes, and many Wheels, with Several Motions, Several wayes , and all within one and the same Compass, and from One Prime Spring. Again, some may Wonder how it is possible Figurative Thoughts can Inlarge and Contract the Dimension

sion and Extension ; I answer , how is it with Prospective Glasses , Convex and Concave Glasses ? likewise a Screen, or a Fan, or the like, which can fold many Folds into one Fold, then can draw them out into a Plain, Straight piece again , and so Shut up into a Fold, or Open in a Plain piece as Often and as Quick as a Thought ? and millions of the like Examples may be given ; but these are enough for this Time , on this Subject.

CHAP. XIII.

Of Thinking or Thoughts.

THoughts are more Pleasant to the Mind, than the Appetite to the Senses , and the Mind Feeds as ^{ed}greatly on Thoughts, as an Hungry Stomack doth upon Meat ; and as some Meat breeds Good Nourishment, and some Bad Nourishment , causing either Health and Strength , or Diseases and Pain ; so doth Thoughts, for Displeasing Thoughts of Grief, and all Sad Remembrances , cause the Mind to be Dull and Melancholy, or Froward and Discontented ; and Pleasing Thoughts cause the Mind to be Chearfull, Pleasant and Delightfull. Besides, the Mind is like Chewing of the Cud, for what the Senses bring in, and are Fed with Outward Objects , those Swallowed Objects , the Thoughts of the Mind Chew over again ; Thus the Mind is alwayes Feeding.

Besides,

Besides, the Senses have no longer Pleasure or Pain than the Objects Remain ; but the Mind is as much Grieved or Delighted, when the Object is Removed, as when it is Present ; As for Example, a Man is as much Grieved when he Hears his Friend is Dead or Kill'd, as if he Saw him Dye or Slain, for the Dead friend Lives in the Mind, not the Mind in the Dead friend ; and if a Man have a fine House, or great Riches, or an Excellent rare Race of Horses, or the like, the Mind takes as great Delight in Thinking of his fine House, as if it Dwelt in the House, and as great Delight in Thinking of his Riches, or what he could Do with the Use of his Riches, for the Mind doth not so much Dwell in the House, as the House in the Mind, nor the Mind doth not take so much Delight in the Use of the Riches, as in the Thoughts of Using them, and the Remembrance of the Curious Horses is as much in the Mind, as when the Horses were in the Eye ; for when the Sense is Filled, the Mind can but Think, and the Mind may as well Think, when the Objects are Gone, as when they are Present, and the Mind may take as much Delight in Thinking what the Senses Have Injoyed, as what they are to Injoy, or desire to Injoy ; for Thoughts are the Fruition of the Mind, as Objects the Fruition of the Senses ; for the Mind takes as much Delight, (if not more) in Thinking of an Absolute Power, as when the Commands of an Absolute Power be Obeyed ; for Obedience dwells no more in the Mind,

Mind, when it Is Acted, than it did, Before it was Acted, or by the Imagination that it is Acted; Thus the Mind receives no more by Action, than it doth by Contemplation, only when the Pleasure of the Senses are Joyned with Delighfull thoughts, a Man may be said to be More Happy, though I believe, the Pleasure of Senses draws the Delight from the Thoughts; for the more at Rest the Body is, the more Busie the Mind is imployed, and as Torments of the Mind are beyond the Torments of the Body, or at least the Displeasure of the Senses, so the Delight of the Mind is beyond the Ease or Rest of the Body, or the Pleasure of the Senses.

CHAP. XIV.

What the Cause is, a Man hath not his Usual Knowledge, Sense and Reason, in a Swoon or Trance.

AS I have said, Infinite doth not Know it Self, so the Several parts in Infinite matter are Ignorant of each other; also the Several motions in one and the same Part, make a Man in a Swoon or Trance, neither have the Sense nor Knowledge as usually; for though there be no Alterations of his Figure, yet there are Alterations of the Natural motions belonging to his Figure; as for the Sensitive motions, although they do not Move to the Destruction, as the Dissolution of the Figure, yet they do not Move

Move to the Use of the Figure, but may Move as to the Use of another Figure, not of the Nature, Kind, or Sort of Animal; also the Rational motions may Move as to another Sort or Kind of Knowledge, like as Different Languages, so Different Knowledges, not Understanding each other, like as a Point or Pen, that Writes upon a Table-book, so the Animate matter may Write Several Knowledges, which can be Rubb'd out or Writ in, as often as the Pen and Book remains; So I will compare Several Knowledges to Several Languages, the Pen to the Animate motion, the Book to the Inanimate matter, or rather to the Figure; as for Example, Put the case, Latine were the Natural Language to a Man's Figure, and that he knew none other Language, then of Necessity all other Languages, as Greek, Hebrew, French, Dutch, English, or any other Language whatsoever, must necessarily be as Nonsense to him, being Ignorant in those Languages; So as when a Man is in a Swoon or Trance, the Animate motions Rub out the Natural Language as the Natural motions, which are the Natural knowledges, and then Write Hebrew or Greek, which are Unknown Languages, which is, the Animate motions move other ways, than is Natural or Proper to the Figure, or Creature, then the Creature thus disturbed hath, as it were, forgotten his own Language, so his own Natural knowledge, being wholly Possess'd or Indued with an other Sort or Kind of Language, which
is

is another Sort or Kind of Knowledge, but when as the Distemper is over, and that the Animate motions are Regular, according to the Nature and Propriety to the Creature as Man, then the same Natural language, which is the same Natural knowledge, and the same Natural motions are as they Naturally should be, the same Creature as Man is as he was before the Swoon or Trance, but in the Swoon or Trance he was Possess'd or Indued with other Sorts or Kinds of Knowledge, which Unknown knowledges, as Unknown languages, caused by Unusual and Improper motions, are rubbed out, as the Natural and Proper motions were, and so the Body and Mind is as Ignorant, when out of the Trance, of that Knowledge in the Trance, as when they were in the Trance of their own Native knowledge both of Sense and Reason. Thus Several knowledges are not onely in Several and Different Creatures, but in One and the same Creature, which Several knowledges both of Sense and Reason, were, or are no more Known to each other, than Several languages to Unlearned men. But yet every Particular or Different language is still Language, although every Particular is not General; So every Particular and Different knowledge is still Knowledge, although each Sort is not General; but if the Natural language, which is the Natural knowledge, which is the Natural motions, be never Rightly or Plainly Repeated again, then we say, that Creature, as Man, is become a Fool, Ideot, or Irrational Creature.

Creature. In truth, Swooning and Reviving is like Memory, Forgetfulness, and Remembrance, which is, such and such Figures and Motions are Rubbed out or Put by with other more Powerfull motions, making other Figures in the former Places or Figures, and after Repeated again, which Dissolving and Repeating, or Creating of Figures by Motions, may be made so long as the Figure lasts, like as a Point or Pen that Writes upon a Table-Book, or Parchment, which Writing may be Rubbed out, and Repeated so long as the Book or Parchment remains; The like for Several knowledges of Sense and Reason made by Animate motions, may be Rubbed out, or Put out, and Repeated again in the Several parts of the Body and Mind: Indeed every Several part hath a Several knowledge, and every Several Animate motion is a Several knowledge. But to conclude this Chapter of Swooning or Trances, in a Swoon or Trance all the Motions in the Sensitive passages, both Sensitive and Rational, are altered quite from the Nature of the Creature for a time, but after some time they move Properly and Regularly again; but surely the Creature in the time of the Swoon or Trance, was neither void of Sense nor Reason, but had both, although not such Sense and Reason as was proper to his Nature and Figure.

CHAP. XV.

Of Sense and Knowledge in Dead or Living Men.

SOME may ask this Question, that if Sense and Knowledge (as the Sensitive and Rational Animate matter,) be in Inanimate matter, and all Creatures composed of these Degrees of Matter, so that in every Creature or Figure, or Part of matter, there is Sense and Knowledge, what Sense and Knowledge hath a Man, or any other Animal, when they are Dead? I answer, that the Figure of that Man, and every Part of his Figure, may have Sense and Knowledge, but not the Animal Sense and Knowledge, for those Motions proper for that Figure be generally Altered, not to be Repeated without a new Creation; for though the Animal shape is not Altered untill it be Dissolved, yet the Animal motions of Animal Sense and Knowledge are absolutely or intirely Altered, so as the Dead Figure hath no more of an Animal Creature then barely the Shape, and the Shape is Dissolving from an Animal shape, as fast as the Sensitive Expulsive motions can Separate the Whole figure into Parts; but it is impossible for a Living animal to know what Sense and Knowledge a Dissolving animal, which is a Dead figure, hath, because it is not an Animal when Dead. But such Questions may as well be asked, what

what Sense and Knowledge Vegetables, Minerals, or Elements have, as to ask what Sense and Knowledge a Dead man hath; for though a Man may partly know of the Sense and Knowledge of other Animals by himself, being of Animal kind, yet he cannot know what Sense and Knowledge other Kind of Creatures have, and a Dead Animal is Changed from what it was, to some other Creature that must be.

CHAP. XVI.

Of the Motions of the Rational and Sensitive Matter.

THE Sensitive and Rational Animate matter is the highest Extract, it is the Quintessence of Nature, which is the Animate part of Nature, which is the Life and Knowledge in Nature, which is the Actions and Soul; as for the Rational Animate matter, having no Incumbrances, it can Divide and Unite, Dilatate and Contract it self Infinite Several wayes in its own Substance and Motions, but the Sensitive Animate matter Moves after another manner, for it Divides and Composes, Dilatates and Contracts with the Inanimate matter, and though the Rational and Sensitive Animate matter move not alwayes after one Manner, yet they move alwayes after one Nature.

CHAP. XVII.

The Power, the Rational Motions have over the Sensitive.

THE Rational motions in the Mind have great Power over the Sensitive motions in the Body, as to Perswade or Command the Sensitive motions, to keep the Sensitive Passages or Doors to be Shut from all Outward Objects, when as the Mind would not be Disturbed with Outward Objects, when it desires only to move in Contemplations; Also the Rational motions in the Mind will Command, or Perswade, and sometimes Force the Sensitive motions in the Body, to keep Open the Sensitive passages, and to Labour in some Arts, or Studies, or Observations, as Reading, Writing, or Practising, or Working in some of the Appetites, so that when as the Mind is Ambitious, Covetous, or Wanton, it Forces the Senses to Watch, to Work, to Play, and the like.

CHAP. XVIII.

Of the Regular and Irregular Motions of the Rational and Sensitive Animate Matter.

THERE is such Sympathy between the Rational motions in the Mind, and the Sensitive motions in the Body, as they oftentimes Disturb each

each other, I will not say alwayes, for sometimes the Rational motions are Regular, and the Sensitive Irregular, other times the Sensitive are Regular, and the Rational Irregular, but oftentimes the Irregularity of the Rational motions, causes the Irregularity of the Sensitive, and oftentimes the Irregularity of the Sensitive motions, causes the Irregularity of the Rational; As for Example, when as the Rational motions are so much Irregular, as to be Tumultuous, so as to cause Fearfull imaginations, or Imaginary fears, which Irregular Imaginations and Fears, cause the Sensitive motions to move Irregularly and Tumultuously; and this Animate matter and motions do not only move Irregularly, and Tumultuously, but Violently, as beyond the ordinary Capacity or Ability of the Body; as for Example, when some Men are Disturbed with Imaginary fear, or Fearfull imaginations, which causes the Sensitive motions to Print in the Sensitive passages Irregular Objects, which causes a Man to see Strange unusual Objects, which Men name Hobgoblins, Spirits, and Devils, as also to Hear strange Noises, to Smell unusual Sents, and to Feel unusual Touches, and to be Carried into unusual Places; and it is not to be Doubted, but all these Strange and unusual Sight, Sounds, Sents, Touches and Violence were true, for no doubt, but such Sensitive prints were made on the Sensitive passages, that cause the Unusual Sensitive effects; for if such Extravagant motions be made, such Extravagant senses

senses will be ; as for Example , when Men say they are Pinched black and blue , no Question, but they have had such Pinching motions on their Body, as to be Sore , and many times the Black and Blue spots will remain , and when they say, they were Carried or Flung into such a Ditch, or the like Place, I do not doubt it, for I see no reason, but that the Whole body may be carried Violently from place to place by the Strength of the Animate motions in that Body ; for certainly, the Animate motions in one Body, as a Man, do not ordinarily Work or Move to the utmost Power of their Strength or Agility ; as for Example , Mad men in their Mad fits, have many times more Strength, than when they have not their Mad fits, for some that are, as we say, Outragiously mad , Ten men cannot Hold or Keep them in their Beds , and when as their Mad fits are past, they are so Weak, as a Womans strength may Rule them. But to draw to a Conclusion , it is with the Animate matter and motions, as it is with Governours and Citizens, or Commons , they know not their own Power and Strength, untill such time, as they make a Trial, or are Forced to it, for every Particular part knows not the Strength of the Whole, untill the Several parts Joyn all into One , as the Several powers of each Part into one whole Strength and Power, so the Animate matter and motions Moving and Working in Several parts of the Body and Mind, know not their own Abilities, untill each Part joyns as into
one

one whole Power and Strength. Thus the Animate matter and motions in every Creature may be Ignorant of it Self, but when as the Animate matter and motions are United into one whole Power, they have great Force and Strength; but when as the Sensitive motions begin the Disorder, Uproar, or Tumult, the Rational becomes so Disordered with the Disorder of the Sensitive, as it can neither Direct Prudently, nor Advise Subtilly, nor Order Methodically, and when as the Rational motions begin the Disorder, Uproar, or Tumult, then the Sensitive motions cannot Act Orderly, Methodically, or Properly; but many times the first Beginners are the first Repenters.

CHAP. XIX.

Of Sleep.

ALthough the Sensitive Animate matter, or the Rational Animate matter doth never desist from Moving, as being against the Nature, for Animate matter is in a Perpetual motion, yet that Matter both Sensitive and Rational, doth not alwayes Move or Labour in a like Degree, nor alwayes after one manner of Way, or in one Part or Figure, or in one Time, but Differently; as for Example, in Animals, Creation, Increasing, Nourishment, Consistence, Use, Convenience, Decays, Sickneses and Death, Grief, Joy, Love, Hate, and the like; also the Rational

Rational and Sensitive doth not Move Asleep as Awake, or Awake as Asleep, for Asleep they Work on the Inside of the Sensitive passages, and Awake on the Outside of the Sensitive passages; for in Sleep they desist from Working, or Printing, or Patterning of Outward Objects on the Outward Parts of the Sensitive passages, as sometimes with being Tired with Outward work, as Outward motions, and sometimes for want of Outward objects to Work and Move on, other times it is their Appetite to Freedom and Liberty to desist from Outward Labours or Employments; for though the Animate motions oftentimes move and work as Actively to Sleep, and in Sleep, yet it is easier to move Voluntarily, than when they are Bound to Outward objects, as to Work upon Constraint and Necessity.

CHAP. XX.

Of Disturbance of some Parts, causing a Disturbance in the Whole, as to hinder from Repose or Sleep.

ALthough the Sensitive nor Rational matter doth never desist from Moving, being in a Perpetual motion, yet they do not alwayes Figure or Print Outward Objects, neither do they alwayes make Use of the Sensitive outward Passages or Doors, for the Sensitive motions make no Use of the Outward passages, when

when they Shut them up from Outward objects, for though Sensitive motions move in the Sensitive passages for their Consistence, yet not alwayes for their Use, as we may perceive, when they are Shut for Sleep; but the Sensitive Animate motions in the Sensitive passages cannot Shut the Doors when they will, although they have the Rational consent, for sometimes the Irregular motions in some Parts of the Body, hinder the Sensitive repose, as also the Rational; as for Example, when as the Sensitive motions are Irregular in any one Part of the Body, as in a Finger, or a Toe, it disquiets all the rest of the Animate motions both of Body and Mind, insomuch as the Sensitive motions in the Sensitive passages cannot move so Regularly or Orderly, as they would do, if the Sensitive motions in the Finger or Toe were Regular; neither can all the Animate motions both of Mind and Body all times rectifie the Disorders of that one Part, although they get the Assistance of other Motions in other Creatures and ^{Pa}Arts, so that some Disorders in some particular Parts hinder the Order of the Whole man, or such like Animal Creature; but when the Disorder is not so much as to hinder a through Order, but that there is only a half Disorder, or a partial small Disorder, then the Sensitive passages are partly Closed, and partly Unclosed, as in Slumbers, or Half sleeps, or to Shut and Open untimely.

CHAP. XXI.

The Difference between Sleeping and Waking.

THe Difference between Sleeping and Waking, is, that in Sleep the Sensitive Animate matter and motions Work on the Inside of the Sensitive passages, as they do when as Awake on the Outside of the Sensitive passages, and when as the Sensitive motions Work on the Inside of the Sensitive passages, they Work by Rote, that is, they Work as to make Prints and Figures on the Inside of the Sensitive passages, without the Help or Patterns of Outward objects, which is the Cause, that, when as the Outward passages are shut from receiving Outward objects, then the Sensitive motions in the Sensitive passages Work inward, and their Inward work is for the most part Erroneous, for want of Objects, so as they work Confusedly and Extravagantly, Figuring or Printing a Lions Head, or the like, to a Foxes Tail; or Printing or Figuring Pictures of Outward objects so Confusedly and Extravagantly, as to Joyn partly Animal, partly Vegetable, partly Mineral, or partly Elemental, or one Vegetable, or one Mineral, or one Animal, or the like to an other, not any wayes Agreeable to each other, or at least not their Parts agreeable to each other, all which is for want of Outward objects, to take right Examples from, for Working

Working by rote, and by Sensible remembrance, they Work falsely, which causes the Rational motions to move Erroneously in Sleep, by reason the Rational moves according, for the most part, to the Sensitive Prints or Pictures; but sometimes the Sensitive, and so the Rational, moves just to those Objects, that have been formerly Printed on the Outside of the Sensitive passages, and then those Sensitive motions cause Perfect Dreams; but if the Sensitive motions make no Perfect Prints or Figures on the Inside of the Sensitive passages, or that the Rational motions, when as the Outward Senses are shut and repos'd, move not in a perfect Ground or sculpt Figures, but only move in a Streaming or Flowing Dilatating motion, then a Man says, he did not Dream, that is, he did not Think, and Believes he was all the time, he was Asleep, as if he was Dead, as being without the Animal Sense or Knowledge, but the Man is mistaken, for the Animal Sense and Knowledge is in the Animal Mind and Body, but doth not move in the Animal Mind and Body Asleep, as it doth Awake; I say, not alwayes or at all times so, but sometimes it doth, for in Madnes the Rational and Sensitive motions work or move as in Sleep Awake, and Awake as in Sleep.

CHAP. XXII.

Of Sleep and Dreams.

Sleep is caused by a Tiredness of the Spirits; for when the Sensitive motions are Tired with the Working on the Inanimate part of matter, which Tiredness is Slacking the Motions, or Changing their Motions, as when they Work Easily, then the Figure grows Drowsie, and the Senses Dull, being weary of Pencilling, and Copying out Objects upon the Optick Nerve. Likewise with Printing Letters, and Setting Notes on the Drum of the Ear, or in Drawing Platforms of several Tastes, Touches and Sents on the Tongue and Pores of the Flesh, or Striking or Playing on the Nerves, and on the *Dura mater* and *Pia mater* of the Brain; but many times the Figure grows Drowsie, and the Senses Dull, when the Sensitive motions are Idle for want of Work, that is, having no Variety of Objects presented to them; I mean, of such Kind of Works, for the Animate matter never ceases to Move, although the Motions are not alwayes Agil and Quick, nor after one and the same manner; but when they Alter the Motions, as I may say more proper than to Slacken them, they do as it were cast Anchor, pulling down their Sail, going as it were under Hatches, and the Figure that is like a Ship, where the Motions of the Breath are like Waves of Water,

ter, that Heave it up, and then Sink down, but Sail not, nor Steer not to any Coast; and the Sensitive Animate matter, which is in this Action like Mariners, when they Work under the Hatches, Drawing and Winding up the Slimy Humors in the Body like Ropes by Attractive motions, Staying and Setling the Loose parts by Retentive motions, Placing and Putting Disordered parts into their Proper places by Digestive motions, and all the Motions busily employed; some Mending the Figure, Stopping the Leaks, Darning and Sowing together the Torn Sails, Oyling and Greasing the Keel, Pitching and Tarring the Crevises, Tying and Twisting the Ropes, Drawing the Superfluous moisture to the Gutter, ready to be Pumped out, Sweeping all the Rubbish and Dirt on a Heap, ready to be Flung out; some Running up, and Returning from the Deck, which are the Pores of the Skin; but the Rational Animate matter is the Master of the Animal Ship, and the Sensitive Animate matter, as the Sailors, these Work on the Inanimate part of matter, the other Directs, when occasion serves, that is, when the Body is in Action; for though the Rational Animate matter never Labours on the Inanimate part of matter, yet they Counsel and Direct the Animal Ship, when it is Built, and set afloat, that is, when the Body is come to the full Growth, and Orders it in Blustering Storms, and Great Dangers; but the Rational Animate matter, when this Animal Ship is cast
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to Anchor, which is to Sleep, moves only in a Rocking or Rouling motion, as it were from side to side of the Cabbin, which is the Brain, making no Perfect Figure, nor giving Direction; this is Sleeping without Dreaming, but Dreaming is, when they move in Figures, making such Figures, as these Objects, which have been Presented to them by the Sensitive motions, which are only Pictures or Copies of the Original Objects, which we call Remembrance, for Remembrance is nothing but a Waking Dream, and a Dream is nothing but a Sleeping Remembrance; But if the Sensitive Animate matter moves in the same Manner, on the same Place, as Printing and Drawing such Figures or Objects in the Optick Nerve, or Setting such Notes or Letters on the Drum of the Ear, or Drawing such Platforms on the *Dura mater* or *Pia mater* of their Brain, or the Tongue, Flesh or Skin, of their own accord, without the Presence of the Outward objects, then we See, Hear, Taste, Smell, Touch as strong as if we were Awake, if their Motions be as Strong and Industrious; but many times we have in Sleep those Objects but in Part, and not in Whole, the reason is, that either the Sensitive Animate matter is Slow, or else they are not so Perfect Artists to Work without a Pattern, Working by misplacing and mistaking, or else Working by halves, according to their Skil, or as Appetite moves them, making a Hodg-Podg or Gallimophry of many several Pieces or Draughts into one Figure

Figure or Picture, which make Extravagant Dreams, by reason they Work not in a Methodical manner, and the Rational Animate matter moving in the same manner, makes a Mixt resemblance; but the Sensitive Animate matter having not the Outward objects in Sleep to Work by, seldome works Perfect or Plain, and working Imperfectly, they move Disorderly, and for the most part, that which makes us so often Perturbed in our Sleeps, is by moving Cross and Irregular, which cross Irregularity insnarls several Motions, so as there is no Distinction, which is the reason, that our Dreams are so often Obscure and Dark, as we can make nothing of them; and when the Rational Animate matter moves Cross and Tumultuously, our Dreams are most commonly Fearfull; and when the Sensitive Animate matter Works so Disorderly, our Dreams are Painfull; and when the Sensitive Animate matter works Perfectly, and the Rational Animate matter moves Justly, we have as much Knowledge and Understanding of what we Dream of, and as much Satisfaction from our Senses, as if we were Awake, and the real Objects present to us.

CHAP. XXIII.

Dreamings of Living and Dead Figures.

THose Friends ^{and} ~~in~~ Acquaintance that have been Dead a long time, and appear in our Sleep,

Sleep, we never question the Truth of their Life, though we may question them how they Lived; again, the reason is, that these Figures are as Perfect and Lively to our present Senses in our Sleep, as when we are Awake, for oftentimes the Sleeping motion Prints Figures on the Inside of the Optick Nerve, as on the Inside of the *Pia mater*, as the Waking motion doth on the Outside, and when we Hear them as it were Discourse words, right on the Inside of the Drum of the Ear, or *Pia mater*, by the Sensitive motion, as on the Outside, when we are Awake; for all the Sensitive matter Works Inwards Asleep, as Outward Awake; for if we smell Sents pleasing or displeasing, the Sensitive Spirits draw Lines, and set Notes on the Inside of the *Dura mater* and *Pia mater* of the Brain; And so for Taste and Touch, they draw Platforms in the Inside of the Skin, either of the skin of the Tongue, or any other Outward part of the Body, as they do on the Outside of the skin Awake; Thus the Senses present as Perfect Prints to the Rational matter oft times in Sleep as Awake, only they Print on the Inside Asleep, and on the Outside Awake, and what Rational Creature would not believe their Senses? for should a Man see an other man Dye, and see him Buried, and afterwards should see that man Alive again, and hear him Speak, and Touch him, shall feel the Substance of Flesh, would not he think he Lived? *Thomas* the Apostle questions the Relations of our Saviours Resurrection from the Grave,

Grave, but never questioned his Senses, when he Saw and Touched him; So in our Dreams, when the Sensitive Animate matter Prints such Figures on the Optick Nerve, as of such a Person which is Dead, the Rational matter straight Patterns out the Sensitive Print, and when the Sensitive Print, and the Rational Figure is just alike, the other Motion of the Rational matter cannot question the Truth of that Figure, or Figures being there, though they may question how they come Alive again, treating with it, as if Awake; the same is, if the Sensitive Animate matter Prints any thing as Dead, which is Living, and the Rational Patterns it, the rest of the Rational motions make no question of the Truth of those Sleeping motions, untill Waking motion other-ways Inform them; for Rational motion in every Particular Figure knows little of the Sensitive, but what the Senses show them in the Several motions, yet the Rational motion generally knows, what they Present unto them, which every particular Sense doth not, each Motion is Unknown, and are Strangers to each other in one and the same Figure, for the Ear knows not what the Eye seeth, nor the Eyes know not what the Nose smells, nor the Nose knows not what the Tongue tastes, nor the Tongue knows not what the Body feels, but the Rational Animate matter in a Figure, knows all the Sensitive motions in the same Figure, as long as the Figure is Perfect, and Moves in an Animal way, and that the Rational motion

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moves Regular ; for when the Motions are Irregular, they can take no Perfect Copies, nor Notice how the Sensitive move, that is the reason that in Perturbed Passions, which are only Irregular motions, the Senses become as it were Useless to them, but most commonly the Disorder of one brings the Disorder of the other, I will not say, at all times ; and so when the Sensitive Spirits are Regular, the Rational is Regular, but not at all times, for sometimes the one is Regular, the other is not, but the Rational which takes Copies of the Sensitive, is oftener Disordered by the Sensitive, than the Sensitive by the Rational, for when there is Grief in the Mind, many times the Body is in good Health, but it is seldome known, when the Body is Sick, but the Mind is Troubled.

CHAP. XXIV.

Of Local Dreams.

THe reason that many times we Dream of Walking Woods or Houses, and the like, is through this following reason : The Rational Animate matter, as I often said before, turns most commonly into such Figures, as the Sensitive Animate matter Prints, or hath Printed upon the Senses ; now if a Tree, or House, or the like, be Printed on the Inside of the *Pidmater*, or the like Sensitive Part, when we are Asleep, the Rational Animate matter straight
 Figures

Figures them, these Figures move after a Local manner, although they have not an Animal or Local Shape; the reason is, that the Rational Animate matter, being Purer in it Self, without the mixture of Inanimate matter, moves only in ^{its} ~~their~~ own Matter, and the Figure moves in the Matter, whereas the Sensitive Animate matter Working upon the Inanimate part of matter, Moves in that Inanimate matter, and not the Inanimate matter in the Sensitive Animate matter, that is, the Sensitive Animate matter moves in the Inanimate part of matter, and the Inanimate part of matter is Moved by the Sensitive Animate matter; Thus the Sensitive Figure is Moved, but not Moving, but the Rational Animate matters Figures give their own Motions; Likewise if we have seen a Battel, or heard of a Battel, and afterwards we Dream of the same, or of the like Battel, then the Rational Animate matter puts it Self into Animal Figures, and Moves after a Local manner, each Figure placing it Self after that manner or way, as was Related, or Printed by the Senses, or after a way of its own Invention; and when the Figures encounter each other, as they must do to Fight a Battel in the Brain, and then some seem to be Falling, and others Dead, and some Mangled, Those Figures are as Falling and Broken, and cease to Move after the Local manner; and when one Party seems to Move as in a Confusion, then the Motions are Irregular, and just as the Senses present; so doth the Rational Ani-

mate matter Act in the Brain, when we Sleep, and sometimes when we are Awake, as in Imagination, but especially in the Disease of Madness.

CHAP. XXV.

The Rational nor Sensitive Motions do not at all times take a general Notice or Knowledge in their own Body and Mind.

Rational motions in the Mind do not at all times take Notice of the Sensitive motions in the Body, that is, the Rational motions do not at all times take Notice, as to Figure the Sensitive Prints in their Rational Matter or Substance; as for Proof or Example, the Mind many times when it is in a Serious Contemplation, or Violent Passion, will take no Notice of the Sensitive motions in the Body, for in a Serious Contemplation, the Mind neither takes Notice of those Objects, as are Presented to any of the Senses, as Seeing, Hearing, Smelling, Tasting or Touching. Thus much I my Self have known by Proof of my own Mind and Senses; also some Men in Violent Passions receive a deadly Wound, and at the present take no Notice thereof, but when as the Serious Contemplations or the Violent Passions are past, then the Sensitive pains are taken Notice of, as also the Sensitive objects, which Express that the

the Senses have Knowledge different or single from the Rational, for the Sense Felt it at the present, as well as after, although the Mind did not take any Notice thereof; and as in the Whole, so in Parts, both in Body and Mind; as for Example, when as a Man is in a serious Discourse, the Mind is so Attentive, as not to take Notice of any other Part of the Body, but of the Tongue and Words spoken, for if any other man Pulls or Pinches any of the other Parts of the Body, neither the Ear hears his Words, nor Flesh feels his Touch, unless he use such Violence as to make a double or treble Outward motion, that is, to make a more Violent Outward motion, than the Inward motions are at that Present, or more Fix'd than the Set Motions are in those Particular Parts. But to Conclude, and to Prove that the Mind doth not at all times take Notice of the Sensitive Actions or Knowledge, when a Man designs to go to such a Place, or to such a Man, or Woman, or the like, after the Mind hath designed to what Place or Person the Body shall go, the Mind seldome regards the Bodies motions, as how the Feet go, or the Body moves, for the Mind regards not every Step, nor the measures of each Stride or Slip, nor many times the Place he goes to, and yet the Feet carry the Body directly to the designed Place or Person; but if the Sensitive Animate matter, which is the Mover of the Body, should not Regard, or should not Knowingly order every Step and Motion of the Feet,

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the Body would not Move out of its Place, or not Go, where it was Designed.

CHAP. XXVI.

Of Figure Presented to the Senses.

THe reason, why Figurative Senses are Quicker, than the Figurative Growth, is, it is less Labour to Print on the Inanimate part of matter, than to Cut out Sculpt Figures, both for the Strength of Actions, and for the Variety of Actions therein, fetching their Material a long way, and from many several places, which requires time and place, when Printing is but an Impression made upon a Flat.

CHAP. XXVII.

Of the Several Senses.

THe general Opinion is, that all Objects come through the Optick Nerve, and Print the Figures received, on the Brain; and that there are, nor can be no Figures in the Brain, but what the Opticks bring in, and have passed through the Eye: It is true, by Experience we find, that without an Eye we cannot see Outward objects as they are without us, yet we see those Objects as they are without us in our Sleep, when our Eyes be shut; Thus the Sense of Seeing is not lost, although the Eyes were

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out, and the Optick Nerves stop'd up. But some will say, those Objects in Dreams have past through in Part or in Whole, therefore the question will be, whether an Animal can have an Insight, if it were Born blind; but if it be so, as the Opinion is, that no Figure or Insight can be, but what comes or hath passed through the Eye, and Optick Nerve, must want that Sensible Knowledge, for according to that Opinion, the Ear can do the Understanding no Service as toward that Sense, by reason Sound can make no Figure to Sight, neither will Taste, nor Sent; But some may say, Touch may discover somewhat of that Sense to the Understanding, but I think not: for in my Opinion, Touch is as Senseless to Insight as Sound; for we cannot Comprehend more of Touch, than of Sound, for Depth and Breadth are no more to Insight, than High notes and Low notes, nor Soft nor Hard, no more to Insight than Swift and Slow, Sharp or Flat, nor Pleasure nor Pain, no more than Harmony and Discord; but my Opinion is, that Figures are as Inherent to the Mind as Thoughts; and who can have an Unfigured Thought? for the Mind cannot have Thoughts, but upon some Matter, and there is no Matter but must have some Figure, for who can think of Nothing? but the Mind is like Infinite nature, having no Dimension or Extension, no Centre nor Circumference, nor Breadth nor Depth; and as the Animate matter Creates Figures, so the Mind, which is the matter Creates Thoughts,

Thoughts, which Thoughts are the Figures of the Mind ; for when we hear of a Deity, we say in Words, it is an Incorporeal thing, but we cannot conceive it so in Thought, we Say we do, but we cannot Prove we do ; 'Tis true, the Mind may be in Amaze, and so have no Fix'd Thought of any Particular thing, yet that Amaze hath a Figurative ground, although not Circumscribed ; as for Example, my Eyes may see the Sea, or Air, yet not the Compass, and so the Earth or Heavens ; So likewise my Eye may see a long Pole, yet not the two Ends, these are but Parts of these Figures, but I see not the Circumference to the uttermost Extension, so the Mind in Amaze, or the Amaze of Thinking, Cuts not out a Whole and Distinct Figured Thought, but doth as it were Spread upon a Flat, without a Circumference, and though there are not such Figures in the Brain, as it brought through the Opticks, yet such Figures as the Mind Creates ; for the Mind is Animate matter, and Animate matter is Self-motion, and Self-motion is alwayes Moving and Working, which Working is Figuring. Thus the Sensitive Animate matter Prints Figures in the Brain, and the Rational Animate matter Creates Figures in the Brain after its own Invention, which are Imagination and Conception, wherein are made Imaginary Worlds, without the Materials of Outward objects, and perchance these Motions may Create such a Figure as this World, and such several Figures, as the several Creatures therein,

therein, although not so Solid and Lasting, because those Motions want those Gross materials, which they should Create it withall; but the Sensitive Animate matter in this case, Prints these Figures upon the Brain, like as when it doth the Outward objects, and when the Sensitive Animate matter Works on the Inside, as in Sleep, then it gives an Insight, which are Dreams, according to their Copied Prints, and these Motions may make Light, Colours, Tunes, draw Plat-forms of Taste and Sent, make Prints of Touch, not only the Rational Animate matter by Imagination, but the Sensitive Animate matter gives a Sensible Touch on the Brain of all the Outward Senses, by which Touch, I mean Sensible Knowledge. Thus the Interior motions may move the Brain with the Variety of every Sense, without the Exterior Passages or Objects, and although it may not make those very Objects, yet such as are Proper for each Sense, and of the same Nature as I said before, Draw lines of Light, Gathering motions make *mg motions make* Clouds, Triangular motions make Colours, Insarled motions make Darknes, without the Outward object, and all other Motions that make several Printed Figures; Likewise Reflections without the help of the Eye, and so Re-bounds and Retorts, for Sound and Set notes Print Words, and Plain Tunes without the Ear; So likewise for Taste, Sent and Touch; but when the Brain is filled with Outward objects, the Natural motion seldome Works after
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their own Invention, having not Room as it were, or else it is as it were Over-burthen'd with Work, having more Objects brought in, than they can either Conveniently and Regularly work or move on; but Weak minds which are Slow moving matter, think Life an Insensible thing, and the Head or Brain empty of Figures, when it is not filled with Outward objects, like as a Barrel is not filled with Liquor, they think Empty, because the Thin Air, with which it is filled, is not Subject to their Gross Senses, so not to their Weak Capacities. Thus it is not the Outward objects that make the Sense, but the Animate matter, which is Self-motion, which is the Sense and Knowledge, and the Different motions therein, and therefrom, make the Differences thereof, and though Different Sense and Knowledge may be in Different, and Several Figures, and such Kind of Sense and Knowledge proper for such Kind of Sorts of Figures, yet the Figure adds nothing to the Sense and Knowledge, although the Animate matter may give a Figure such a Kind of Sense and Knowledge, and when that Figure Dies, that Kind of Sense and Knowledge may Alter, which was Proper to that Kind of Figure; yet if it were the Figure that gave the Sense and Knowledge, and not the Animate motions, there would be no Alteration when the Figure is made, or any extraordinary Passion, where by Experience we find, the Sense and Knowledge do Alter all, though the Figure be Perfect and in Health.

CHAP. XXVIII.

Of Hearing and Seeing, and the other Senses.

SOME may think it strange, that One Word should strike or enter into Several Ears at One Time, but surely it is not more strange that One Word should strike or enter many Several Ears, than that One Object shall enter into many Several Eyes at One Time; for the Sensitive motion and matter in the Ears receives Words or Sounds, as the Sensitive matter and motion in the Eye doth receive Objects, for the Motion of the Objects are not the only Cause of Hearing or Seeing, or the Effects of the other Senses, but the Motions in the Senses make such Motions as the Objects; and for proof, when as the Senses are Stop'd or Shut, the Objects are Useless, but the Sensitive motions will Print or make such Figures as Outward objects, without the Help of Outward objects; as for Proof, those that are Mad or Conceited, will Hear, See, Feel, Smell and Taste, several Sights, Sounds, Words, and the like, without Outward objects. But Words and Sound are trebly made, first they are made in the Object, then in the Sense, and last in the Mind; but when as a Man Speaks to an other man, they are made many times over Several wayes; as for Example, a Man before he Speaks, Thinks of those Words he should

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Speak,

Speak, then those are made in the Mind of the Speaker, by the Rational matter and motions, then he Speaks those Words, then they are made in the Mouth of the Speaker by the Sensitive motions, as also in his Ears when he Hears himself Speak; also those Words are made in the Ears of the Hearer by the Sensitive motions and matter, and then in the Mind of the Hearer by the Rational motions and matter, and if those Words be Spoken to a Multitude of Men, from those Words are made Multitudes of Copies of those Words in the Multitude of Ears and Minds; This shews, that it is not, as each Mind and Sense will make them, but Really as they are, so that we may well perceive, that some and the same Motions, and Figures, and Matter, is in the Senses and Mind, as in the Outward objects, and that some and the same Motions, Figures and Matter, are in the Outward objects, as in the Mind and Senses, as in Madness; and also in Multitude, which expresth all these several wayes of Sense and Reason and Objects.

CHAP. XXIX.

Of Particular Objects entring into Several Men's Particular Senses.

AS for Particular Objects to enter into Several Men's Particular Senses, some may Wonder, how that can be; as for Example, One Word to enter into many Several Ears; but in my

my Opinion, Sound spreads as Light doth; as for Example, a Small Candle will inlighten a Large Compass, by reason, ^{of the} Rayes of Light stream equally from the Centre, Candle to the Circumference; So doth Sound, for when as a Pistol or the like Shoots, or makes a Sound, or the Mouth of a Creature, the Pistol, or Mouth, or that which makes the Sound, is the Centre, which spreads Sound, as Fire doth Light; and when such a Compass of Air is fill'd with Sound, either Vocal or Verbal, every Ear that stands in the Compass, must upon necessity receive the Sound, if the Ear be not Deaf; Likewise every Eye may see Light that is not Blind, and Rebounds of Sound are as the Reflexion of Light, and Verbals are received into the Ears, as Figures into the Eyes, and as several Lines of Light Intermixt make Colours, so several Notes or Stops of Sound make several Tunes; but some may say, that if the Air were full of the same Words or Notes, that more would enter the Ear than was needfull, and so would make a Confusion; I answer, that cannot easily be, for the Ear can but receive a Due Proportion, unless the Ear be Defective, the like for the Eye, as so for the other Senses. But to conclude this Chapter, the Motions of Outward objects Move and Figure the Air, being a Rare and Soft agil Substance, to its own Likeness, and so long as those Figures or Motions last, those Figures and Motions are Sensible to the Senses, for the Senses Move according to the Motions of the Objects
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in the Air, and for the most part, the Reason Moves according to the Senses.

CHAP. XXX.

Of Light and Colours.

Light and Colour is made upon the Optick Nerve, as Sound on the Drum of the Ear, for Light the Sensitive Animate matter draws long, straight, small, even Lines upon the Optick Nerve, and when Colours are made, Notes are set upon those Lines drawn upon the Optick Nerve; Colours are made when those Lines are set with Notes, as Quavors, Semi-quavors, &c. but Light is only when those Lines are drawn without Notes.

CHAP. XXXI.

Of Hearing.

After the same manner is Sound received at the Ear, only the Difference is, that instead of Drawing or Printing the Outward objects, received through the Eye, Printed on the Optick Nerve, the Sensitive Animate matter Sets or Pricks down Notes and Draws Lines on the Drum of the Ear, as Musicians doupon Paper, or the like; and the Sensitive Animate matter in making them Run, and make Stops, according as the Vocal Sound is Set, and it is Louder
or

or Lower, according as they work Weaker or Stronger; but for the Verbal, it is Writ or Printed on the Drum of the Ear in Letters, for Words and the Knowledge, the Animal Figure takes, is, when the Rational Animate matter moves according to those Letters or Notes, or wayes of Division; but in a Confused Sound there is no Order, Time, nor Stop kept, nor no Perfect Note, nor Letter, nor Line Prick'd, or Printed, or Drawn, but as we Vulgarly say, it is all Scribble Scrable, or else Ciphers set for Notes, and like as it is to the Opticks, so it is to the Ear, for the Notes and Letters are as Pictures which Fade; for as the Outward motions Slacken, so the Vocal and Verbal Sound Dissolves, and the Memory and Remembrance of Sounds Vocal and Verbal is, as the Sense of the Objects on the Opticks.

CHAP. XXXII.

Of Taste, Touch, and Smell.

THese Senses are made by such Motions as Sound is, and as they are Set on the Drum of the Ear, so these are Set on the Nerves of the Tongue, or on the Skin, for when the Skin is off our Tongue, we cannot Taste; Likewise for Touch, 'tis set on the Nerves and Sinews, and when the Notes are set Harmoniously, it Pleaseth the Senses, otherwise it Displeaseth them, which Displeasure is Pain in the Sensitive Animate

Animate matter, and Hate in the Rational Animate matter. As for Sents, they are Motion that Draw like Lines, like a Platform upon the *Pia mater* of the Brain; indeed the second Draught of the Sensitive Animate matter, is to Draw all their Figures upon the *Pia mater* of the Brain.

CHAP. XXXIII.

Of Touch.

Touch is the general Sense of the Whole Body, which the other Senses are not, for though every Part of the Body is of a several Touch, yet it is all Touch; when Sight only belongs to the Eyes, Sound only to the Ears, Sent only to the Nostrils, and Taste only to the Tongue; besides, Any of the Senses, nay, All of them may be Wanting, as if they did not belong to Life, (as indeed they do not, but are only as Conveniences to the Life, and not Necessary) whereas Touch is as it were the Life of the Figure, for when this Sense is generally wanting in the Animal Figure, it is as we say, Dead, that is, the Natural motion belonging thereto, is generally Altered, or quite Changed as we say. This Sense is received through the Pores of the Flesh, and the Nerves are the Instrumental Strings, whereon Motion Playes, either a Harmony of Pleasure, or a Discord of Pain, for as their Strings are struck, so is Pain or

or Pleasure felt ; but I have treated sufficiently of this Sense in the Chapter of Numb'd Pal-
sies.

CHAP. XXXIV.

Of the Pores of the Body.

THe Pores are Passages , which let Out the Smoke or Vapour, Unnatural Heat, and the Superfluous Humors in the Body ; also they are Passages to let In Comfortable Warmth, Refreshing Colds, Nourishing Air ; these Passages have their Inconveniencies , for they are a means to Conveigh out the Good with the Bad, and many times take in Infections, as malignant Diseases, that pass through the Pores, for Infection comes in as much through the Pores, as any other Passage of the Body. Besides, many times the Radical moisture is Carried out by Unnatural Heats , and some times the Vital Spirits by too many Transpirations ; but these Pores are Drawn or Shut Closer together by Contracting motions , or set Wider open by Extenuating motions , but if these Common and Necessary passages to the Interior parts be too Close shut, either by Cold Contractions, or Hot Contractions, it Smothers and Choaks the Vital parts by keeping in the Vapour or Smoke that should go forth , for the Pores in this Case are as the Fun-
nels of Chimnies, wherein the Smoke ascends up, and goeth out , and if they are set too Wide
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open by the Extenuating motions, they Cause the Body to Starve, by giving Passage to such matter, as should be Kept in to Feed the Body, or by giving too free Passage to the Natural moisture, that should Quench or Temper the Heat in the Body, or by giving too free a Passage to the Gadding spirits that should stay in the Body, to be employed to the Substance and Strength thereof. Besides, when they are too Open, they are as apt to take in, by giving Passage to that which is a Prejudice to the Life of the Body, as Infections, Malignity, or Unnatural Colds, or the like; but the Pores of the Body are alwayes Employed, where the other Passages of the Body are Employed but some times. But to conclude this Chapter, though the Pores of the Body be the least Doors or Passages of the Body, yet they are more in Number than all the other Passages, for the other Passages are but Single Passages, or but in Pairs, whereas the Pores are Numerous; but the Passages of the Mouth and Nostrils are the most Usefull, and yet the most Deadly, for to receive in Air, and to let out Breath, which being stop'd, the Body Dies, being Over-power'd with Inward Vapour, and Hinder'd from Outward Air, for there is a Necessity, that one Creature must Live by another, and Animals cannot Live without Air, although some think Fish do ~~not~~, but I believe they do^{not}, for if Fish had no Air, they would Die, witness those Fish that Die in Frozen Rivers.



PHILOSOPHY.

PART VII.

CHAP. I.

Of the Natural Wars in Animal Figures.



ALL Animals after they are Created, and have an Animal life, their Figure is Inlarged by Nourishing motions, and Sympathetical matter; these Nourishing motions are Digesting motions, carrying those Parts, which are Received by the Senses, unto those Parts, that are Created therein, Building thereon, and Fitting therewith, Strengthening by Adding Thickness, as well as Inlarging by Extension; yet all that is Received into the Stomach, is not Nourishing, the Reason is, that the Temperament of the Matter is not Sympathetical, that is, agreeing not with the Motions therein; for though it is not so Antipathetical

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to make an Open War, which War is Sickneſs, yet they do Hinder and Obſtrict, like Several Factions, thoſe Natural motions, which make Health; but when the Natural motions and Tempers of Humours are quite Opposite to the Food that is received, or the Unnatural humors bred in the Body, by Evil Diſeſtion, they become Mutinous by the Quantity that is received, or that ariſeth from Obſtructions, whereupon there becomes a Feirce and Cruel Fight of Contrary motions, and Temperaments of Matter, and whiſt they are in the Battel, we ſay, the Body is Sick, and if the Natural motions be not Strong enough to Caſt that Evil and Dangerous matter Out, or at leaſt able to Reſiſt them ſo far, as to Guard themſelves, until the Evil parts do Spend themſelves with their own Fury, or till the Natural motions and Temperaments can have ſome Aſſiſtance, as Cordials, or Phyſick, it Deſtroys the Figure it Fights with; but if the Natural motions be more Powerful, either by their own Strength, or by the Help of their Aſſiſtants, than the Mutinous and Rebellious humours are, or the Foreign Enemy, as Surſets, and the like, then the Diſtempers or Diſeaſes are Caſt out, Killed, or Taken priſoners, which is to be Purged, Corrected, or Purified, which makes the Humours Obedient and Peaceable.

CHAP. II.

Of the Motion of the Blood.

I Have heard, that the most Renowned and Learned Physician Doctor *Harvy* hath found out the Circulation of the Blood by his Industrious Studies and Observations in the Dissections of Animal bodies, and it would be very Beneficial to the Health and Consistence of Animal Bodies, if he had, or that other Learned men could find out the Motion of the Blood, as it runs in a Circular course, as whether it hath an Intermixing motion, as it Runs thorow the Veins, or whether the Blood doth not do, as Water seems to do, when it Runs in a Swift course, where the Following parts or Drops of Water are as great Strangers to the Leading parts of the Water, as the Situation of either Pole; for though the Hinder parts of a Stream or Flood of Water press the Former parts to run Forward, like as Crowds of People, some Shoving or Thrusting others before them, yet the Hindermost cannot get Passage, as to get First, for a Single strength is too Weak to pass thorow the Strength of a Great, Close, United Number; So Water, which is apt to Divide in Parts, and as apt to Joyn into great Swell'd Bodies, yet those Parts do not seem to Intermix or Incorporate whilst they Flow or Ebb, for if the Several parts should Intermix as they Flow
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or Ebb, their Intermixing motions would Hinder or Retard their Flowing or Ebbing motions, in so much, as the Flowing or Ebbing motions would not hastily be perceived, neither could Flows and Ebbs be Changed or Repeated so soon, as we perceive they are; But if the Blood doth not Intermix one Part into another in its Circulation about the Body in the Veins, then some Veins may have Foul and Corrupted blood, and some very Pure blood, if so, when as an Animal, as a Man, is Let blood, if they light not on that Vein whereas the Corrupted blood is, they may take out the Pure and Incorrupted blood, and leave the Foul and Distempered blood in the Body, which Corrupt or Distempered blood may corrupt the Vital parts as it Runs in a Circular motion thorow those Parts. This is the Reason, that many in Feavers, or any Disease that proceeds from the Distemper of the Blood, are never the better, when as they are Let blood, because the Physician or Chirurgeon knows not, in which Vein or Part of the Body the Distempered blood is. Wherefore Physicians or Chirurgeons had better strike two or three Several Veins in Several Parts of the Body, and venture the Loss of some of the Good or Well-tempered blood, than let the Distempered blood Remain, lest it may Corrupt the whole Body, not by Intermixing, but by Running or Flowing thorow all the Parts of the Body.

CHAP. III.

Of the Several wayes of Bleeding Physically.

There are three Several wayes of Bleeding Physically, as by a Lancet, by Scarifying and Cupping, and by Leaches. The Bleeding by a Lancet I approve of Best, the other two wayes Worst, for that way of Bleeding that is by Leaches and Cupping, doth for the most part more Hurt than Good, for they draw forth of the Body the Thinneſt part of the Blood, wherein the Pureſt Spirits (ſetting aſide the Arteries) are infused, and leave the Groſſeſt and Heavieſt part of the Blood behind; and it is to be obſerved, that the Pureſt part of the Blood is in the Artery Veins, the Groſſeſt Blood in the Middle Veins, and the Thinneſt Blood in the Hair Veins, wherein are more Spirits than in the Middle Veins, although much leſs than in the Loweſt Veins which are the Arteries; and for Proof, thoſe that Bleed either by Leaches, or Scarifying, are more Pale and Fainter than thoſe that Bleed by the Lancet, although the Blood be equal in Quantity; but ſome may ſay, that Leaches open the Middle Veins; I anſwer, they may do ſo, if the Hemorrhoid Veins be ſo High or Swell'd, as to be ready of their own accord to Open, but not if they lye Low, for a Leach cannot peirce thorow the Skin, and then thorow the Fleſh,
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and lastly to open the Vein, as a Lancet can, for a Leach hath not strength to do it; and as for Scarifying and Cupping, it is but Skin deep, for though the Cupping Glassses draw, yet they make no Incision into the Middle Veins, and Scarifying is only on the Skin.

CHAP. IV.

Diseases caused by Conceit or Imagination.

AS for the Producing Diseases by Conceit, 'tis thus: The Sensitive motions, which are the Motions of Life, have an Absolute power over the Sensitive part of the Body, as Working every Part thereof, and therein; so the Rational Animate matter, which are the Motions of the Mind, Create Imaginations and Conceptions, and the Rational and Sensitive being as Man and Wife, the Rational as the Husband, the Sensitive as the Wife, whereupon the Rational many times Begets that Disease, it Figures, which is an Imagination, and the Sensitive brings that Child forth, being like the Figure of the Rational; and to Prove it, those that Conceit they shall have the Small Pox, Measels, Plague, or the like, most commonly they fall Sick of that Disease, although they come not near the Infection; and to prove the Animal Spirits which is the Mind, works the same Motions by an Imagination as the Disease is, those which Conceit a Disease, do not fall Sick of any other

other Disease, but the same they Imagine; and the reason why these Malignant Diseases are Produced oftner by Imaginations, than other Diseases, is, that those Diseases are Dangerous, or that they are apt to Deform, which makes a Fearfull Conception or Imagination to Work more Strongly, for did the Imaginations work as Strong to other Diseases as to these, they would Produce the same Effect.

CHAP. V.

*Of the four Natural Humors of the Body,
and those that are Inbred.*

AS there is Natural Fire, Air, Water and Earth, that is made by an intire Creation, derived from their own proper Principles, as likewise a Metamorphosed Fire, Air, Water and Earth; So there are Humors in Animal Bodies, and in other Bodies, for all I can perceive, and though the Bodies cannot be Metamorphosed, yet the Humors may. But in every Animal Body there is Natural Melancholy, Choler, Phlegm and Blood, the Natural blood is the Vital vapour, the Natural flegm is the Radical moisture, the Natural choler is the Radical heat, the Natural melancholy is the Animal spirits, being the Highest Extract; and if we do but observe those that be Naturally Melancholy, they have the Soundest Judgement, the Clearest Understanding, the Subtilest Observation,

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tion, and Curiouslest Inventions, the Most Conceptions, the Finest Fancies, and the Readiest Wits; likewise the Strongest Passions, and most Constant Resolution; but Humors which are Imbred, as Flegm, Choler, and Melancholy, are made as Metamorphosed Fire, Air, Water, Slime, Mud and Earth; as for Example, the Chylus is the matter that is Metamorphosed; the Dilatating motions Transform it from Chylus to Slime, from Slime to Water, from Water to Blood, from Blood to Vapour, from Vapour to Comfortable and Lively heat, from Comfortable and Lively heat to Burning Feavers, and Hectick Feavers, and the like. Likewise the Chylus by Contracting motions turns from Chylus to Slime, if they be Cold Contractions, it turns from Slime to Flegm, from Flegm to Heavy Melancholy; if Hot Contractions, it turns from Chylus to Temperate Choler, from Temperate Choler to Choler Aduſt, from Choler Aduſt to Melancholy, which turns from a Slimy humor to a Muddy humor, from a Muddy humor to an Earthy dry humor. Some ſort of Hot Contractions make it Sharp, ſome Salt, ſome Bitter; Likewise ſeveral ſorts of Salt, Sharpneſs, and Bitterneſs are wrought with Mixt motions; Cold Contractions make the Humor Glaſsy and Stony; Hot Contractions make the Humors Tough, Clammy, Glutinous and Stony; Hot Dilatations make the Humor Oily, Cold Dilatations Watery; Likewise mixt Motions make mixt Humors, and mixt Tempers

Tempers inclining to each Side, as the Motions predominate.

CHAP. VI.

*The Four Natural Maladies of the Body, and
Two Unnatural Maladies, one in the
Mind, the other in the Body.*

Every Diseased figure is either Pained, Sick, Difie, Numb, Weak, or Mad, sometimes they meet all in one Figure, these are Distinct Senses one from another: As for Pain, although every Several part of the Body hath Different sense, yet they agree in the General, as to be all Pain. But Sickness is quite Different from Pain, for it is another Sense, for to have Pain in the Stomach, is not to be Sick in the Stomach, neither is any Part of the Body, but the Stomach, liable to this Sense of Sickness; the Head may Ake, and the Heart may Ake, Heel, or any Part of the Body, but none but the Stomach can be Sick; Indeed, it is a Different sense from Pain. Thirdly, a Swimming or Dif- finess in the Head are Different from both the other, it is a Third sort of Sense, neither is any other Part of the Body subject to this Disease, but the Head, yet Faintness or Weakness is a Disease as it were Tempered with the Three former Diseases, as to have Pain, Sick, and Giddy, or a Swimming, to be Mixt or Compounded into One Disease, but it is so Mixt and Com-
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pounded into all Three, as neither is Perfectly or Distinctly felt, so as it is no Distinct sense, this Disease is General to the whole Body. The Fifth is Madness, this Sense is neither Painful, nor Sick, nor Giddy, but Light in the Head, which is different from Giddiness or Swimming; but this Disease Infects with a Distemper the Five Outward Senses. The Last is a Numbness and Deadness of Particular parts, and sometimes of the Whole body, but this Disease is not onely a Different sense, but of another Nature, which is Unknown to the Figure, for the Figure is not any ways Sensible thereof, indeed it is of the Nature of Swooning, for those that Swoon, the Motions of the Animal Sense and Mind are quite Altered for a Time, but then the Animal motions Return that is Re-changed to the proper Motions again, so that those Dead parts, that cannot be Restored to the Sense of Touch, are, as it were, in a continual Swoon, for though in a Swoon the Exterior motions proper to the Sense of Touch be Changed, yet the Interior motions proper to the Consistence of that Figure are not Changed; for if the Interior Consistent motions were Changed, it would turn to a Dissolution, so in Dead palsies, if the Interior Consistent motions were Changed, those Parts would Corrupt as to Dead Carcases. Numb palsies are different from Dead palsies, as Fainting from Swooning, for Fainting is in the next Degree to a Swoon, so a Numb palsy is the next degree to Dead palsies. But there is a Sixth Malady,

Malady, that is somewhat of the Nature of Dead palsies, onely the one is in the Mind, as the other in the Body, which Sixth Malady is Natural Folly or Simpleness, which is of a different Nature from the Nature of a Man's Mind, as a Dead body from the Nature of a Man's body; and those that are but Half Fools are, as if the Mind were in a Numb palsy.

CHAP. VII.

Of the Motions that make Sickness.

THE Motions that cause Sickness are different, according as the Sickness is, or rather the Sickness is according to the Different motions, for some Motions are like the Ebbing and Flowing Tides of the Sea, for the Humor Furdles or Folds Upwards, as the Flowing tide, which most commonly provokes to Cast, as Over-flowing the Mouth of the Stomach, but when the Humor Folds Backward, as the Ebbing waters do, that provokes to the Stool, for as Falling tides Run from one place, they Flow to another; So when the Humor falls back from the Mouth of the Stomach, it Over-flows the Belly, but if the Humor neither Over-flows the Belly, nor the Mouth of the Stomach, it Runs into the Nerves, like as the Water Runs thorow the Earth, and as the Water Breaks forth by Springs, so doth the Humor by several Rheums. Again, some Sorts of Sickness in
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the Stomach are made by such kind of Motions as Water Boiling in a Pot, over the Fire, for as Ebbing and Flowing motions are Running Backward, and so Forward, so Boiling motions are Rising Upward and Falling Downward, there is as much Difference in these Motions, as betwixt Vaulting and Running; but these Rising motions cause Vapors to the Head, for the Thin parts, which Rise highest, when their Rising strength fails, Fall not hastily down again, but Gather to a more Solid Body, as Vapor from the Earth doth into Clouds; these Clouds cause the Dimness and Darkeness of the Sight, Obstructing the Light that is brought by the Optick Nerves. Again, there are other Sorts of Sickneses in the Stomach caused by such Motions, as are like the Rolling of a Barrel, the Humor turning about in the Figure of a Barrel, which Figure, or the like, is somewhat Bigger in the Middle than the two Ends, this Humor in the Stomach is most commonly Tough and Thick, being more United, and sometimes one End of this Humor is as set Upward, and the other Downward, and so Turned as a Barrel with the Head Upward, and sometimes moved as a Barrel the Longest way on the Ground; these Motions cause neither Purging by Vomits nor Stool, but Thrust out into Cold sweats; for though these are not so Strong Dilating or Expulsing motions as Overflow, which forces to Vomit or to Purge, yet it Extenuates by Thrusting weakly out into a Faint sweat;

sweat ; then there are other Sorts or Sickneses, which are Caused by such Motions , as if Meat were turning about on a Spit, for the Centre of the Humor removes not out of the place, although the Circumference turns about , this is a Constant Sicknes, and the Stomach hath no Ease, untill the Humor is taken out of the Stomach by some Stronger Motions, as you would take a Spit from the Fire, or by Retentive motions , to hold the Humor from Turning ; So there are millions of Several Motions, which make Several Sickneses in the Stomach , for though the Stomach can be but Sick, yet the Sicknes is not alwayes after one and the same manner.

CHAP. VIII.

Of the Motions which cause Pain.

PAin is Caused not only by Irregular motions, but Cross motions, or rather, as I may say, Jumbling motions , that is, Motion Beating upon Motion , or, as I may say, Running upon each other, Thronging and Justling each other ; and Several sorts of Pain in Several parts of the Body, are caused by Different, Cross, or Beating motions, but if they be Dilatating motions, they Beat upon one another by Shuffling Outward, like as Foolish Women do for Place, Tumbling upon each other to get Fore-most, those Painfull motions turn to Sores and Putrifie, because Dilatating

latating motions make Moisture, and being Perturbed make Corruption ; but if they be such Contracting motions which cause Pains , they turn those Parts that are Pained, to be Harder than Naturally those Parts are , as the Stone, Dry Liver, or Brain, or the like ; but if those Pains be made of Mixt Motions, as some beat Inward, and some Outward, and so run Cross, they are Hard Swellings, that extend to the Exterior parts, but will not Break , as the King's Evil, or Gouts that lie in the Flesh, or Sciatica, and many the like ; for though the Extenuating motions would Burst out , yet the Contracting motions Keep in, and being both Equally Strong, neither get the Better for the Time the Pain is ; and if the Pain be amongst the Sinews, it is caused either by Contracting motions, or Dilatating motions , but not Mixt, but as it were Divided ; for if it be Extenuating motions, the Sinews are Irregularly stretch'd too far ; if Contracting or Attracting motions, they Irregularly draw, or pull , or gather the Sinews strings too Short ; if the Pains be in the Bones, they are only Cross motions, as if one should Run against the other , yet neither Shuffle Backward nor Push Forwards, being Equally strong ; if in the Flesh they are Intangled motions, which make it incline towards Black, as to seem Purple, or Red or Black. And if the Pain be in the Skin, they are Pricking motions, as if a Needle should draw a Thread in and out upon a Cloath, or the like ; but in every Pained Part there is some difference

difference in the Manner of Motions, although not in the Nature of the Motions.

CHAP. IX.

Of Swimming or Diffiness in the Head.

Diffiness and Swimming in the Head is made by Several sorts of Motions, of such Vapour as is Condensed into Wind, if Wind be Condensed, if not, it is Rarified Vapour turned into Wind, and the Agilness of the Motions therein causeth the Force thereof by an often Repetition, giving no time for a Repulse; But howsoever Wind is made, either by Rarification or Condensation, it is Wind most commonly, which causeth that we call a Swimming and Diffiness in the Head; for this Condensed, or Rarified Vapour, which you will, when it is Expulsed, Flies Violently about, Carrying or Driving whatsoever is Bearable, Loose, or Moveable, along or about with it; according to the Strength thereof; and if this Wind be in those Veins, which Incompass and Run through the Brain, it Carries the Blood therein, with such an Extraordinary and Swift motion about the Head or Brain, as it Carries the Senses, as it were, along with it, which makes the Diseased think the Brain turned Round in the Head, when it is only the Vapour that Wheels round therein, or about; but the Lasting strength Wasting by the Violent Swiftnes, brings but a short

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Trouble

Trouble to the Diseased, and seldome or never causes a Ruine, unless there be some Vein broken by the Violence thereof; but if it be a Windy Vapour in the Hollower and Larger Parts of the Head, it sometimes will gather like a Ball, or like that we call a Spinning Top, which Spins about in the Brain whilst it hath Strength, and when the Strength fails, the Spinning motion is done, and the Vapour disperseth, so the Dissiness ceaseth; at other times those Vapours will move like a Whirl-wind, moving Ascendingly in Lesser and Lesser Circles, untill it brings a Circle to a Point, in the Shape of a Pyramide; and when the Strength abates, or that it Breaks it Self against more Solid matter, the Vapour disperses, and so Expulses; but this Sort of Motions is so Violent, as it causeth the Diseased to Fall, but soon to Recover, for what is Supernaturally Violent, cannot last Long.

CHAP. X.*Of Weakness.*

Swooning is caused by the Obstruction of the Spirits, or too great Evacuations, or when any thing Suppresses, or Laies Siege to the Heart or Head, they being the Magazine of the Life of the Body, wherein the least Disorder is like Fire to Gun-powder; Weakness is caused by a too much Relaxing of the Sinews and Small

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Fibres of the Body, which are like Laths to a House, and Flesh, like the Mortar laid thereon; the Bones like the strong Timber Rafters and Beams therein, which when the Mortar is worn of, the Laths are apt to Loosen; so when the Body is Lean, the Flesh is Wasted, the Sinews are apt to Slacken. Again, some are Weak, by reason the Sinews are Boil'd too tender, as too much towards a Jelly, which the Body will be after Moist Extenuating Diseases, as after Extraordinary Sweatings, Small pox, Measles, or the like, or in Hydropical diseases, Weakness is in a Degree to Death, as being towards a Final or General Expulsion of the Figure.

CHAP. XI.

Of Numb and Dead Palsies.

A Dead palsy is not onely made by Mif-tempered matter and Disordered motions, but by Unnatural motions, as Improper to the Nature of that Kind of Figure, Working or Mis-working most commonly upon the Exterior parts, Drawing up, or Shutting close those Passages that should be Open, working by Contrary motions from the Nature of the Figure, which causes Insensibility, but as long as the Vital parts be Untouched, which are the Stewards and Trustees to the Life of the Body, which are to Dispose, Discharge, and Direct,

to Take in and Lay out for the Subsistence of the Body, as I may say; as long as these are Untouch'd, the Life and the Body may Subsist, although the other Particular parts be, as we say, Dead, or Lost to the Natural use of the Body. A Numb palsie is of the same Nature, but not of the same Degree; as for Comparison, a Dead palsie is, as if a Door, for common and necessary Passage, should be Close shut, and Lock'd or Nail'd up; and a Numb palsie is, as if the Door or Doors should be Half open, and according as it is Open or Shut, the Numb palsie is More or Less; but both Dead and Numb palsies are occasion'd by some Unnatural Contractions, for if it were by some Unnatural Expulsions, the Parts Infected would Rot, and fall from the other Parts, as Gangrenes, which certainly are caused by such kind of Unnatural Expulsions, as Dead palsies are of Unnatural Contractions. Thus we find by Experience, that they are Unnatural Contractions, that cause Dead palsies, because they do not Rot. Wherefore in the Diseases there must be applied Opening medicines, that work Dilatively, and if they be caused from a Cold contraction, then Hot Dilatating medicines must be applied, but if they proceed from Hot contractions, the Cold Dilatating medicines must be applied; But the Difficulty and Skill will be to find whether they proceed from Cold or Heat, although most commonly all Physicians do apply in these Diseases very Hot and Dry medicines, which are

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Contracting, which Medicines are quite Contrary to the nature of the Diseases, which makes them Cure so few, but the surest way is to Apply Dilatating medicines, whether Hot or Cold.

CHAP. XII.

Of that we call a Sleepy Numbness.

A Sleepy Numbness is also caused by Obstruction or Stoppages; as for Example, if any Over-burthenfome Weight lies upon the Arm, or Hand, or the like, it will become Numb, which is Vulgarly called Sleepy; the reason is, that Pressing too hard upon those Parts, we Stop the Pores, which should receive Touch, for if the Pores be close Shut, Touch cannot enter, no more than if the Eye be shut, an Outward object can enter, or stopping the Ears or Nose, a Sound or Sent can enter, as we may find by Experience, for if any part is Bound too hard, it straight becomes Numb; likewise by a violent Blow; the Reason is, the Striking or Thrusting back the Blood; for the Blood is like a Running company, which when they are Forceably beaten back, on those Companies that are Thrusting forward, Unite by Contraction into so Firm a Body, that no Particular part can stir, which Solid and Thick body stops the Pores of the Flesh, and the Running Motions in the Veins; but also, as we give Liberty by Unbinding,

binding, or by Taking off Weight, or by gently Rubbing, to Open the Pores, and Disperse the Blood, it is Cured. Likewise the Sleepy numbness may proceed from a Superfluity of Vapor, which flying to the Pores for Vent may stop the Passage by too great a Concourse, being more Vapor than sudden Vent; but any Alteration of Motion cures it, by Dispersing the Vapor more Thin and Evenly.

CHAP. XIII.

The manner of Motion or Disorder in Madness.

THe Motions that make that Extravagancy we call Madness, is as a Carver or Painter, Ingraver, Printer, or the like, should place the Figures they work the Wrong end Upwards; or as if Mathematicians should draw a Platform, and should make a Square, where a Circle should be, or should put Equal Weights in Uneven Scales, or set False numbers, or make False measure; or as a Painter, Printer, Carver or Graver, should Paint, Print, Carve or Grave a Bird's head to a Lion's body, or if a Painter should Draw Feathers on Beasts, and Hair on Birds, or the like; Indeed, a Sensitive madness is like Dreams in Sleep, onely the Sensitive motions work in Sleep, as I have described before, on the Inside of the Sensitive dores, and when Awake on the Outside; and in Sleep

Sleep they be wrought without a Pattern, and Awake by a Pattern from the Real Figure, which they Present; and the Differences in Madness are, that they Work by Rote without the Real Subjects on the Outside of the Sensitive Door, as if Awake, although there are no Objects to take Pattern from, as we may perceive by them that are Distempered, that they See such Objects that are not Present, or such as never were, or can be; and so the like for Sounds, Taste, Touch, and Smelling, that is, the Sensitive motions Paint, Print, Carve, Grave, or the like, as on the Outside of the Optick Nerve, without a Real Pattern, and when the Senses work Regular, they never Draw on the Outside without a Pattern, but on the Inside, as in Sleep, and the like for all the other Senses. But the Motions of the Rational Madness are when they move Violently and Irregularly, if the Motions be only Violent, then they Fall into Violent Passions, as Anger, Fear, Malice, or Loving, Hating, Grieving, Dispraises, and Resolute Intentions; if their Motions be Irregular, then they have Strange Conceptions, Wild Fancies, Mixt Memories, Inconstant and Various Opinions; if their Motions be Violent and Irregular, they have Strong and Strange Imaginations, High Despairs, Obstinate and Dangerous Resolutions; if the Sensitive and Rational Animate matter Sympathize in Violent Irregularity, then they will Violently Talk, Laugh, Sing, Weep and Sigh, without reason why,

why, or wherefore; but mistake me not, for when I say too Violent, Strong, Swift, Weak, Slow, it is Irregular, as to the Temper or Nature of the Figure, but not as to its own Nature; as for Example, a Clock may go too Swift, as to the distance of the Hour, and yet Strike Even every Nick; and the Pulse may be too Swift for the Natural Temper, and yet keep Even Time; a Musician may Play too Fast for a Solemn Tune, and too Slow for a Light Air, and yet Play Right to the Notes; as for the Irregularity, some Motions may be too Swift, others too Slow, for other Assistant motions; as for Example, an Army is to March in a Body, and some should Go or Ride half a Day, or a Daies Journey before the rest, and some should Lag and come Slowly behind, or that some should Go one way, and some another; or as two should Carry a Burthen, and the Hindmost should go too Fast for the Former, and so Tumble or Throw down; or as Horses in a Coach, the one Runs away, and forceth the other to Follow; as for Disorder, it is somewhat otherwise, as Tumults and Uproars, as some doing that which they ought not to do, or belongs not to them, or instead of Guarding a House, Pull it down, or like those that will make a Fire in the midst of the House on a Wooden Floor, and not in the Chimney; then there is a Disorder in Placing and Matching of Parts, and Alterations of Motions, quite Different from the Nature of the Figure, for some Sort of Madness is made by
such

such Different motions, as Death, from that which we vulgarly call Life, that is, the Motions are as Different as Several kinds of Figures; for in this Kind of Madness, they no more Know In their Fits, or Remember Out of their Fits, what they Did or Said, or was Done to them in their Fits, then if they had been Dead; Just as in a Swoon, they know not what was done to Restore them; yet there is not a Cessation of Motions, neither in the Sensitive, nor in the Rational, but an Alteration of Motion; 'tis true, there is for a Time a Cessation of such Sorts of Motion, as belong to the Natural Health of the Figure, but not to the Life.

CHAP. XIV.

Of Madness in the Body and Mind.

THere are two Sorts different in Madness, the one is Irregular motion in the Rational Animate matter, the other in the Sensitive Animate matter, as Mis-placing, Ill mixing, Distempering, False Carving, Wrong Printing on the Inanimate part of matter, as in Feavers, or the like Diseases, where the Distempered matter is Mis-placed, which Improper motions alter the Natural motions, which make the Natural Temper, and Causes an Unnatural Temper by Improper motions, working upon every Particular Sense Irregularly, or rather Improperly, and Mixtly, which makes Extravagancies both

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in each Particular Sense, and in the Generality ; this Madness proceeds from the Sensitive, and not from the Rational Animate matter, for the Rational part will be in Order, and describe Distinctly what Extravagances the Sense presents to them ; but this Madness of the Body is oft times mistaken, and thought to be the Distemper of the Mind, because the Sick Persons describe those Extravagancies by Relation, yet oft times the one Causes the other, but not always, for many times the Mind will be Disordered, when the Body is Sound and Healthfull, and many times the Body will be Distempered, when the Mind is Regular and Free ; but the Madness of the Body only Continues to the Height of the Disease, and as the Disease Abates, the Extravagancy Fades, and by Health Vanishes away, or rather is Rubbed or Worn out, by the Regular and Proper Natural motions belonging to that Figure or Body ; but the Madness in the Mind proceeds from Irregular motions in the Rational Animate matter, as when they neither keep Time nor Measure, not only in making Figures, but in moving those Figures they make ; this Distemper, or rather that Disorder, is altogether in the Moving matter, when the other Distemper is in Disordering the Moved matter, for the Sensitive Animate matter may Work Regularly, according to the Nature and Strength, but not according to the Temper or Degree of the Inanimate matter, nor according to the Nature and Property of the Kind or

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Sort of Figure ; but when the Sensitive and the Rational joyns in Conjugal Disorder, the Mind is Raving, as we say, and the Body Weak. The best Remedy for Madness is Temperate Diet, but not so Spare as to Dry the Body too much ; as also Diet-drinks, but not Drying Diet-drinks ; also Purging with Hellebor, but especially Bleeding, first in the Fore-head or Temple-veins, next under the Tongue, and at last in the Legs. But the best is to make Issues in the Inside of the Thighes. Some approve of Leaches, but I do not. As for the Madness of the Mind, which makes no Disturbance in the Sensitive matter or motions, the best Remedy is Gentle perswasions, Kind expressions, and Harmonious musick.

CHAP. XV.

Madness is not always ⁱⁿ about the Head.

MAdness belongs not always to the Head, as that onely the Eye, Ear, Nose and Mouth Sees, Hears, Smells and Tastes Extravagantly, but every other Part of the Body that is sensible of Touch ; for Extravagant Touch is as much as Extravagant Sight, and the like ; for Touch of the Breast, or any other Part of the Body, is a Sense, as much as the Eye in the Head ; thus the Body or Senses will be Mad as well as the Mind, as I have described in former Chapters. Likewise for the Madness in the Mind, it is not

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always bound in the Head ; for where there are Extravagant passions in the Heart , the Mind is as Mad , as when there are Extravagant imaginations in the Head, for the Rational matter, that which we call the Soul or Mind, is as much, and hath as much Recurse to the Heart , as to the Head, and so to the other Parts of the Body, for any thing I can perceive.

CHAP. XVI.

*Musick may Cure those that are Mad
in Mind.*

There is great reason why Musick should Cure Madnefs, ^{for} the Mind, for this sort of Madnefs is no other but the Rational matter and motions that are in the Brain and Heart, put out of their Natural motion, and the Rational matter and motions having a Natural Sympathy with Musick, may be composed into their Right order, but it must be such Musick, as the Number of the Notes must go in such Order as the Natural motion of the Brain, though every Brain hath not one and the same Motion, but are set like Notes to several Tunes: Wherefore if it were possible to set Notes to the Natural motion of the Heart, or that Brain that is Distempered, it might be perfectly Cured ; but as some Notes do Compose the Brain by a Sympathy to the Natural motion, so others do make a Discord or Antipathy, and Discompose

Discompose it, putting the Natural motions out of Tune.

CHAP. XVII.

Of Natural Fools and Idiots, also of Deaf and Dumb Men.

NATURAL Simplicity is not produced as Madness, for Madness is onely an Irregularity of some Sorts of Sensitive and Rational motions, and Mistedpered matter; but to be a Natural fool is by Unnatural motions, or a Defect in Creation and Birth, either caused by the Sensitive motions in the Architecture of the Body, or a Scarcity of Rational matter, or Irregularity of motions in the Creation or Beginning; But some that have been born Perfect according to their Kind, yet in their Old Age become Idiots or Fools, which we name Dotage; This Defect is caused by the Weakness and Decay of the Body, and so of the Mind; for though a Man in Age have all the Parts of his Body Sound, and nothing Diminished, yet the Sensitive motion is working this Body to some other Figure, which causes his Senses to be Imperfect, and his Body Weak; The like doth the Rational motion in some Bodies, changing their Motions, which are Natural to that Figure, as Man, to some other Figure, that Man is ignorant of; Sometimes they Change by Degrees, as from Full growth to Old Age, and sometimes they

they Change on a Sudden, and some sooner, and some a longer time ere those Natural motions change; but in Death there is a thorow Change and Alteration both of Sensitive and Rational, whereas in Decays but some Change or Alteration is made. But this is to be observed, that the Rational matter and motions do not at all times in the Course of a Man's Life Change with the Sensitive, but many times the Weaker the Body is, the more Lively and Agil is the Mind, as may be observed, that Weak Diseased-bodied Men will have very Quick Wits, Ready Memories, Solid Judgments, and Clear Understandings; The like in Age, for some Old men will not onely be Wiser than some Young men at Full growth, and Vigour of Strength, through Long experiences, but their Memory will be more Ready, and their Wit Fresher, and their Fancy more Elevated, than those Men in their most Flourishing years or Times of their Life; for some Men's Rational parts and motions never change from the Nature of that Kind or Sort, as Man, until a Total change, which Total change is Death, so that all Old men are not Dotards, or Idiots, or Fools, but some Few, and so few, as not an Old Man amongst many, although an hundred years old, will be so Changed: As for those Idiots or Fools that are made so by Hurts in the Head, the Violent motions must of necessity Change or Alter these Rational Natural motions that belong to the Head; and those that are made Fools by

by great Frights or Fears, are so, by reason in that Excessive Passion, the Rational matter and motions were so put out of Order, as this Disorder caused such a Change, as to Alter their Natural motions to Unnatural motions, which are not Proper to the Figure of Man; the like in some Sorts of Sicknefs, or by Long Sicknefs; but the only Difference is, that in Sicknefs the Sensitive motions have Disordered the Rational, but in great Frights or Fears the Rational matter and motions hath Disordered it Self. But to conclude this Chapter, there is, as I said formerly, great Difference between Mad men and Fools, for Madnefs is only an Irregularity of Rational motions, but Foolishnefs is Unnatural Rational motion, I mean Unnatural, as Improper to the Nature of the Figure or Creature, namely Man; as for those that are Born Deaf and Dumb, they are not Natural Fools, nor Accidental Fools, unless their Minds be as Defective as their Body, otherwise they are for the most part very Ingenious to help the Defects of their Body by the Wit of their Minds, for they will Conceive and Inform by signs Ingeniously, and certainly, were they not only Deaf and Dumb, but Blind also, yet they would have both Thoughts, Passions and Conceptions, and those Thoughts, Passions and Conceptions would be Regular and Rational according to the Kind and Nature of their Figure, the only want would be, that their Rational part would want the Variety of Outward objects to Move or Work on, which

which is to take Patterns from ; also they would want those Passions , that were Produced from Outward objects.

CHAP. XVIII.

Of the Fundamental Diseases.

THere are many Several sorts or manners of Feavers, but there are three Chiefly to be taken notice of, from which three all other Feavers are partly Derived ; The first is a Malignant Feaver, the second a Hectick Feaver , and the third an Ordinary Burning Feaver ; the first is Catching, and often Deadly , the second is never Catching, but alwayes Deadly, the third is not Catching, and seldome Deadly ; the first Proceeds from Violent Disordered motions and Distempered matter and humour ; the second from too Swift Interior motions and heat, which Distemper and make Waste of the Matter, by which Matter, I mean the Substance of the Body ; the third is too Violent Motions on Well-tempered matter. And these three Sorts of Feavers are often mixt , as it were a Part of each mixt into one ; but an high Malignant Feaver is a Sudden Usurpation , for the Disordered motions joyned with a Mistedtempered matter, which is Corrupt Humors, Surprize the Body, and Destroy the Life therein , as we shall see in great Plagues, the Body is Well, Sick and Dead in a moment ; These or the like Diseases are

Caused

Caused after three manner of wayes, as being taken from Outward Infection, or bred by an Evil Habit in the Body, or by taking some Disagreeing matter therein, which causes a War of Sicknes; for upon the Disorder which the Disagreeing matter makes, the Natural motions belonging to the Body, grow Factious, and like a common Rout arise in an Uproar, which strives only to do Mischief, Stopping some Passages that should be kept Open, and Opening some Passages that should be kept Shut, hindering all Regular motions from Working after that Natural manner, forcing those they can Over-power, to turn Rebels to the Life of the Body; For it is against the Nature of the Animate matter to be Idle, wherefore it Works rather Irregularly, than not Work at all; but as long as a Body lies Sick, the Power is Divided, one Part of the Animate matter working Irregularly, the other according to the Natural Constitution, which by the Regularity strives to Maintain the Chief Forts of Life, which are the Vital parts, especially the Heart, and Disordered motions striving to Take or Pull them down, making their Strongest assaults thereon; for the Disordered Animate matter makes Out-works of Corrupted matter, Stopping as many Passages as their Power will give Leave, so striving either to Starve the Vital parts, or to Oppress them with Corruption, or to Burn them by their Unnatural Heat they make in the Body, or to Drown them with Waterish humour,

which is caused by the Distemper of ill Digestions and Obstructions ; the Regular Animate matter Strives to Break down those Works, and to Cast and Expell that Filth out of the Body, and according as each Party gets the Better, the Body is Better or Worse, and according as the Siege Continues, the Body is Sick, and according as the Victory is Lost or Won, is Life or Death.

C H A P. XIX.

Of Spotted Feavers, especially the Plague.

THose Diseases that are named the Purples, or Spotted Feaver, and Plague, are not only caused by a Superfluity of Humours, or a Corruption of Humours, but an Inflammation of the Vital parts, and Vital spirits, as also of the Loose humours, as Blood and Choler, which for the most part causeth a Total ruine of the Whole body, and where one Patient Lives, Hundreds Dye in those Violent Diseases ; And as for the Disease of the Plague, when that Disease breaks out into Round, Dark, or Bloody Spots, it is a sign of a Certain Death, for I never Heard that any Lived after those Spots were in the Flesh, those Spots showing a Total Infection throughout the Body, and Parts of the Body ; yet I am of an Opinion, that there be Cures or Remedies if they were Known, for though those Diseases will make themselves Known
by

by their Sick or Deadly Effects, yet Remedies are Obscure and Difficult to be found out; but certainly the best Remedy for all such Corrupted, Malignant, Fiery Diseases is Vomits, which take out all Foul and Corrupted Malignant humours, and then to Let blood in Several Veins in Several Parts of the Body, and then to give the Patient Cooling Ptisane, and after some Recovery to Purge and Bleed again; but as for the Spotted Plague, the Patient Dies Immediately, as soon as the Spots Appear, or in few Hours after they Appear; but were I so diseased, if I had any time of Life, as three or four Hours, I would Bleed in many Several Veins at One time, especially those Veins under my Tongue; for those Veins do most generally Draw from all the Parts of the Body; also I would be Let Blood in my Arms and Legs immediately after those Mouth-veins, for if any thing will Cure a Spotted Plague, it must be by Sudden and Extraordinary Evacuations, because the Disease is Violent, and causes a Sudden Destruction. But it is to be observed, that those Diseases that are generally Deadly, the general Opinion is, there is no Cure, and so will never Make or Try Experiments; also in those Diseases that are generally Infectious and Deadly, few will come near those that are Sick, no not Doctors, Apothecaries, Chirurgeons, or the like, without Unreasonable Fees, wherefore the Poorer sort, or the Middle sort, and some of the Better sort,

X x 2

which

which have not enough wherewith to satisfy their Covetousness (for as for Charity or Compassion, there is little of it in the whole World) often Die for want of Regarding. But in Spotted Feavers, the best Remedy is to Bleed Moderately, and then to Vomit; but in Spotted Plagues 'tis best to Bleed so much, as to Faint for want of Blood, for it is better to Live with a Little blood, than to Die with Too much or Too Inflamed blood, and after some little time of Strength, then to Vomit and Purge; but to Prevent those Diseases in Infectious Seasons or Regions, is to Cleanse the Body by Vomit and Purges, and to Empty the Veins by Opening some; for when as there is but Few Humors in the Body, the Malignity hath Little or nothing to take hold of, although most Physicians prescribe Men to Feed much, to keep out the Malignity, as also Hot cordials and drugs to keep out the Malignity, but I am of another Opinion, for I would advise Men in such Malignant Times, or Climates, or Houses, or Companies, to keep Spare Diets, and neither Too Hot nor Gross, nor Hot Cordials by no means; but some Sorts of Sents or Smells are Good, as Burnt Pitch, Tar, Benjoim, Storax, Tobacco, and the like; also to Take Tobacco is not Unwholesome, but very Good, for it doth help to Avoid, both by Spitting, and otherways opening the Body to Vent much Superfluous matter out of the Body and Head; as for that Sort or Degree of the Plague, as onely breaks
forth

forth in Swellings and Running sores, Vomiting is the onely Inward Remedy, and Attracting Salves and Poulteffes laid to the Sores, the Outward; for those Patients that have Sores or Swellings are not so Deadly Infected as those that are Spotted; but this is to be observed, that Swelling Plague-sores proceed more from Corrupted humors, than from Inflammations of Humors and Parts. But in all Malignant diseases, Expelling medicines are best, which Expelling medicines are not of a Hot and Dry nature, for whatsoever is Hot and Dry, is either Contractive or Retentive, which Contracting and Retentive effects are Dangerous, if not Deadly, wherefore Dilatating medicines, which are Interiorly of a Moist nature, are best, whether a Hot or Cold moisture, for all Interior moistures have a Fluid or Flowing Faculty or Propriety, Working and Moving like the Nature of a Flowing Tide, whereas Drie medicines, which are Contractive, are like as the Ebbing tide, that draws Backward or Inward.

CHAP. XX.

*Of the Disease named the Small Pox
and Measles.*

THe Small pox, Measles, or any such Disease that Dilatates from the Inward parts to the Outward, their Causes are Diverse in each Single disease; but for that Disease, namely, the Small

Small pox, as also that Disease, which is much like the Small pox, namely, the Measles, they proceed for the most part from an Overflow of Corrupted humors, those Corrupted humors are apt to Oppress or Infect the Vital parts on the Body, unless the Regular motions and Well-tempered parts are so Strong to drive those Corruptions from their Assaults, for those Corruptions endeavour to Destroy all those Parts they can take hold of; but many times two Diseases joyn together, as a Feaver and the Small pox, or a Feaver and the Measles, both of which joyning together, as the Feaver and Pox, the Vital parts, and Regular motion in those Parts in the Body are oftner Over-come and Destroyed by those two Powerful diseases joyned into one Strength, than they have Victory, unless there be Applied very Effectual Remedies, which Remedies do assist the Vital parts and Regular motions; but in those Diseases must be great Moderation used, in Applying Remedies, that are neither Too Hot nor Cold, either Exteriously or Interiously, as not to Cover or Cloathe the Patient Too Hot, or to give him Too Hot medicines, either Actually hot, or Virtually hot, for fear of increasing the Feaver; yet many Physicians do give their Patients in those Diseases very Hot Cordials to drive out the Malignity, but they do not Consider, or otherwise are Ignorant, that all Hot Cordials are not Dilatating, but some are Contracting, for all Hot motions do not Dilatate

tate, but contrarily Contract, for there are Hot Contractions, and Hot Dilatations, and Cold Contractions, and Cold Dilatations, but in those Diseases, all Contracting Medicines or Cordials, whether Hot or Cold, are Destructive, for these Contractions Keep in the Malignity, and Unite the Corruptions and Superfluities into a Strong Body or Quantity, which Overpowers the Vital parts and Spirits; and if those Medicines or Cordials be indued with Hot Contractions, they Assist the Hot and Feaverish Distempers, wherefore Dilatating Medicines are best, and such Dilatating Medicines, Cordials, or Foods, as are of an Equal Temper, as neither too Hot nor too Cold; yet Cold Dilatations are better than Hot Contractions, and Hot Dilatations better than Cold Contractions, for Dilatations of what Temper soever, are better than Contractions of any Degree or Temper; yet this is to be observed, that if Diseases be Driven or Forced to the Exterior parts too Violently, they may Fall back Deadly, for one Extreme is apt to turn to the contrary Extreme; but the best Remedy in those Diseases, is, to give the Patient warm Posset Drink made of Small Beer, or Wine and Water, and a little Saffron and Licoris boyled together in that Liquor, and to let him take no other Food, untill the Pox or Measles are come so much forth of the Flesh, as not to fall back into the Body, and if there be a Feaver, to Let him Blood, but not if the Patient hath not a Feaver, for as Opening

a Vein will be a Remedy, if the Patient be in a Feaver with the Small Pox or Measles, so it may prove a Destruction to the Life of the Patient, if he have not a Feaver, for if the Patient have no Feaver, Letting Blood will Strike in the Pox, by Drawing back the Corruptions through the Veins, and if the Patient have a Feaver, Opening a Vein will Draw out the Feaver from the Body through the Veins, and with the Feaver the Malignity.

CHAP. XXI.

Of Expelling the Malignity to the Outward Parts of the Body.

THe reason why in Malignant Diseases, as the Plague, or Purples, or Small Pox, Measles, or the like, there break forth Spots, Swelling Scabs, or Wheelks, is by the Power of Expelling motion; but the reason why it Sticks in the Flesh, and ^{breaks} not quite Out, is, because the Regular motions that maintain the Health and Strength of the Body are Opposed by Disorderly motions, which makes Corrupt matter, that makes Disordered motions, for though there can be no Corrupt matter, but what is caused from Disordered motion, yet when the Humours of the Body are once Corrupted, the Motions are more Violent; again, Superabundant Humours cause Disordered motions, for as there is too much Humour obstructing the Body

Body therewith, so there is too much Motion to work Regularly therein, and being against the Natural Constitution to have so much Humour and Motion, it produceth Violent Sicknes, working to the Destruction, and not to the Maintenance of the Body; but the Regular motions, which are Digestive motions, which Unite, Strengthen and Defend the Vital parts, by Attracting good Nourishment, by Retaining the Usefull Parts, by Concocting it into a Solid Substance, by Expelling of Superfluities or Malignancy out of the Body after a Methodical manner; and according as the Strength of Expelling motions is, so is the Malignity cast forth, for if the Repelling motions be Stronger than the Expelling motions, the Malignant presses so Hard upon the Vital parts, as it Smothers the Life therein, or Burns up the Materials thereof; Again, the Expelling motions may be so Weak, as they cannot Thrust out the Malignity so far as the Circumference of the Body, which is the Skin, or if so far, yet not to Stay there so Long as to Evaporate it, and then the Malignity falls back with a Greater Violence; for what is Forced and Resisted, when once it hath Liberty, or gets Power, it becomes more Violent, by how much more it was Forced; but that Malignity, that doth Evaporate forth, doth insensibly Enter into the next Body it meets, Entering through the Nostrils, Mouth, or Pores of the Flesh; and thus many times from Animal to Animal, untill there is a General Infection,

which is a General Disorder, for the Malignity that Enters in by Infection, is like a Foreign Enemy, which Enters into a Peaceable Country, which not only Disorders it, but makes Havock and Waste, and many times utterly Destroys it; but when a Malignant Disease is bred in the Body, it is like a Civil War, where Uproars are Raised, and Out-rages are Done by Imbred Corrupt Humours; but when Malignant or other Diseases are caused by Surfeits, it is like a Deluge of Fire or Water, that either Drowns or Burns up the Kingdome of the Body; where sometimes it is Saved by Assistant Medicines, and sometimes it is so Furious, as nothing can Help it.

CHAP. XXII.

Of Hectick Feavers.

AS for Hectick Feavers, they are for the most part caused through an Excessive heat in the Arterial blood, which Heat is more difficult to Quench, than to Stop a Prick'd Artery; and as an Hectick Feaver hath an Excessive Interior Heat, so it hath an Excessive Interior Driness, which Driness is for want of Radical moisture, for the Unnatural heat hath Destroyed the Natural moisture, and as the Unnatural heat hath Destroyed the Radical moisture, so it hath Destroyed the Radical heat, for Radical heat Lives in the Radical moisture, both of which is the

Natural

Natural Oyl and Flame of the Body ; thus the Unnatural heat hath Destroyed the Natural heat and moisture , like as Fire will Burn out the Strength or Spirits of Cordial water, or Evaporate Oyl into Smoke ; but the Unnatural heat Wastes the Natural moisture ; for it is to be observed, that those Patients that have a Hectick Feaver , become in time to have that Disease, nam'd a Dropsie, I will not say All Hectick bodies have Dropsies, but Most have, especially if the Body hath been a Long time in a Hectick Feaver , for some Patients will have an Hectick Feaver some years, before it Destroys them, and as the Body Wastes, all the Interior motions Change into Expulsive motions , and the Way or Beginning of Expulsions is Dilatation, which Dilatation causes the Dense parts to be Rare, and so Liquid and Wet. Thus it is to be observed , that Hectick Feavers are first made or produced from Hot Unnatural Contractions, then to Unnatural Dilatations , and at last Destroying Expulsions ; as for Remedies, there is none, but some Retarding or Staying of Sudden destructions may be found or applied to the Patient, but no Perfect Cure, for a Hectick disease is such an Interior disease, that not any Exterior remedy can be Applied as to Cure it. But the Patient must not use any Violent exercise , nor Eat any Salt meat, or Meat of Hard digestion, or of a Drying temper, or Drink any Strong drink , or Take any Hot Cordials, for Heat and Driness is too much of the Nature of the Disease, where

Cold and Moist remedies are best, as Cooling Broths and Julips; also their Meat must be Fine meat, and such as is of a Moist nature, as Fat Chickens, Capons, Young Sucking Rabbats, Piggs, Young Lamb or Veal, or the like; for all Young meat is of a Moist nature; As for Fish, although many Sorts of Fish are Cooling, yet most Sorts of Fish are of a Drying nature, which Drying effect is very Hurtfull for this Disease; but of all Fish, Carps are of the Moistest nature; but it is to be observed, that more than Ordinary Evacuations are Dangerous, because they Dry the Body by Emptying it, for the Humours serve as Oyl, for though they should Flame with Heat, yet they help to Keep in the Light of Life, for if the Unnatural heat hath nothing to Feed on, it will soon Consume it; and though Fasting, Dries the Body, yet the Diseased Patient must not Eat more than he can well Disgest, and rather Eat Often, than much at One time. I say often, Thrice a Day, as in the Morning, at Noon, and at Night, for though many do Eat Four times a day, yet those that Eat but Once a day, think Thrice too often.

CHAP. XXIII.

Of Ordinary Feavers.

A Feaver is caused by Corruption of Humors, or Obstruction of Humors, or having too many Sharp or Bitter humors, or the Boiling

ing of the Blood ; as for Corruptions of Humors, they are caused by the Irregularity of Disgesting motions; the Obstruction of Humors or Parts is caused by the Irregularity of Contracting motions ; the Boiling of the Blood is caused by too many Dilatating motions ; as for Sharp and Bitter humors, which is Melancholy and Choler, if there be more than the Watery or Phlegmatick parts can Equalize, so as to keep them in a Right and Equal temper, they set the Body Afire, for Melancholy is of the Nature of Vitriol, and Choler of the Nature of Oil, Salt phlegm is of the Nature of Sea-water, and Sweet phlegm of the Nature of Fresh-water, the Blood is of the Nature of the Air, which is Groffer or Purer, according to the Agitation which spreads all over the Body, and Dilatates into every Part of the Body, I cannot say, into the Nails and Hairs, for those are esteemed or accounted of but as Excrements ; but these Several Humors and Blood, when as they are Distempered by Irregular motions, or when as any of them is Superabounding, they make a War in the Body, and when the several Humors or Blood moves in Fiery motions, the Body is said to be in a Feaver; wherefore the only Cure is to endeavour to Alter the Fiery motions, which is to Oppose them with the Motions of Water, and therefore the Patient should drink much of Thin Ptisan, which is only a little French Barley, put to a great quantity of Spring-water, and to take off the Rawness

ness with some Boiling, also to Let blood, and then to give Vomits to Throw out the Humors, and Glisters to Draw out the Humors, like as a House that is set on Fire, there is Water thrown on the Fire, and all the Unuseful Combustible stuff is taken out of the House; the like must be done to a Man's body in a Feaver. As for Intermitting Feavers, they are when the Fire is Supprest by the Inward Natural moisture of the Body, but being not Strong enough to Quench out the Unnatural Heat or Fire, made by Irregular motions, it onely Suppresses it, but the Fire being Stronger, Dilatates out again, and thus a Repetition may be made so long as either the Moisture or Fire hath got the Victory or Power.

CHAP. XXIV.

Of the Feavers in the Blood.

A Feaver in the Blood is Occasioned or Produced from Different causes, as having too much Choler in the Blood, or the Blood being too much Agitated through the over-much Rarity or Acuteness, or being Corrupted, or by an Unnatural or Supernatural heat drawn out from the Substantial parts of the Body, or from the Loose humors, set on a Supernatural Fiery heat; but this is to be observed, that when as the Fire in the Blood is Quenched in the Blood, or the Hot Distempered motions in the Blood are Changed

Changed or Altered, the Blood is the same, like as Brandy-wine set on a Flame, the Flame being out, the Brandy-wine continues Brandy-wine, or like as Water that is Boiling on the Fire, take away the Fire, and the Water is as before the Boiling, only the Brandy-wine will be somewhat Weaker, and the Water less in Quantity, by reason of Evaporating; But 'tis to be observed, that there may be a Feaver in the Blood, and not in the Body, and a Feaver in the Body, and not in the Blood, the like for other Diseases, as Diseases of Corruptions and Ostruccion; as for the Distemper of the Body, that hath not been in the Blood, I have seen the Experience; for one of my Servants being very Sick of a Feaver, I gave Order he should be Let blood, and when he was Let blood, it was brought to me to see how Good and Well-tempered Blood it was, I said to those of my Servants that brought the Blood, that the next time the Sick Person was Let blood, that Blood would appear as Ill-distempered Blood, as that present Blood was Good and Well-tempered, and then after a day or two, that the Veins had drawn out some of the Supernatural heat, or some of the Distempered matter, from the Several parts and Several humors of the Body into themselves, the Sick Person being Let blood again, his Blood seem'd only to be as a Dark yellow Water, with a Thick Skin upon that Rare part, and the Third time he was Let blood, although it seem'd much Distempered, yet it seem'd more like Blood, as
being

being of a more Red Colour, but yet the Blood seem'd as a Burnt Blood, but afterward he Recovered ; for when the Veins had drawn out the Heat and Corruptions out of the Inward parts of the Body, and the several Incisions had drawn out the Heat and Corruption, the Sick Man became Well, applying Cooling drinks to help to Quench out the Inward heat ; but when as the Heat and Corruption is only in the Blood, the first time of Opening a Vein, the first Blood that Issues out is the Worst. But so long as the Springs and Fountains from whence the Veins draw out Nourishment, which Springs and Fountains are the Stomack, Mesaraicks, Liver, Heart, and such like Chief or Vital parts, be Sound and Undecayed, the Veins cannot want Nourishment, if the Pipes, which are the Veins, be also Strong and Perfect, but if the Springs and Fountains be Decayed, the Veins can have no Supply, and the whole Fabrick of the Body must of necessity Dissolve.

CHAP. XXV.

Of Agues.

Agues have different Distempers, as Cold, Shaking, Hot, Burning and Sweating Distempers, and one Distemper turning or changing into the other ; but the Ague, and every Distemper in the Ague, doth not alwayes keep Equal times, for some Agues are Every day, some every

every Other day, some every Third day, and some every Fourth day, which are named Quotidians, Tertians, Double Tertians, and Quartans; also the Several Distempers in the Ague do not keep Equal times, for sometimes the Cold and Shaking Distemper continues Longer, and sometimes ends Sooner, and sometimes the Hot Burning Distemper continues Longer, and sometimes ends Sooner, and sometimes the Sweating Distemper doth the like; also sometimes the Cold and Shaking Distemper is more Violent, and sometimes less Violent than other, and sometimes the Hot Burning Distemper is more Violent, and sometimes less Violent, and sometimes the Sweating Distemper is more Violent, and sometimes less than others. But those several Distempers resemble the Alterations of the Loose parts of the Elements, which proves that those Distempers in the Disease named Ague, are only the Distempers of the Loose humors in the Body, as Flegm, Choler, Melancholy and Blood, which are the Voluble parts of the Body, and not the Firm Substantial parts of the Body; But certainly, this Disease is caused by Ill Digestions, and Half-concocted humors, from which Dilates a Gross Vapour, which Over-powers the Natural Heat, and Colour or Complexion of the Body; like as when Gross Vapours arise from the Earth, Gather into Clouds, or Congeal into Snow, they do not only Darken the Sun's Light, but also Cool the Heat in the Sun's Rayes, untill such time as

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the Strength of the Sun doth Dissipate those Gross Vapors and Clouds ; and as the Day appears Darker, being Clouded, so will the Body, as the Complexion, appear Swarthy or Pale ; and like as the Sun, when it is in Strife with those Vapors or Clouds, there is a Tempest in the Region, so when as the Natural heat in the Body is in Strife with the Vapors and Clouds proceeding from Undigested humors, there seems to be a Storm and Tempest in the Body. But I observe, that the several Distempers in the Disease of an Ague, are like as the several Seasons of the Year ; as for Example, the Winter is Cold, the Spring Windy, the Summer Fiery hot, the Autumn Rainy or Wet ; the like of the several Distempers in the Disease nam'd Ague, the first Distemper is to be as Cold and Dry, as Frost, Snow or Ice ; the second Distemper is to Shake, where as every Part of the Body seems to be as much Agitated or Restless as Leaves on the Trees in a Wind ; the third Distemper is to be so Hot and Dry, as if the Natural heat were in the Torrid Zone ; the fourth and last Distemper is the Sweating Distemper, where every Pore of the Body seems to be set Wide Open to let out the Watery part to Drown the Body in a Deluge. But to conclude this Chapter, it is to be observed, that the Motions in the first Distemper are all Contracting motions ; the Motions in the second Distemper are all Expulsive ; the Motions in the third Distemper are all Digestive ; the Mo-

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tions in the fourth Distemper are all Dilative. But pray mistake me not, for I mean Cold Contractions, Cold Expulsions, Hot Digestions, and Hot Dilatations; but according to those Distempers and their Motions, there must be applied Contrary Medicines; also this is to be observed, that the Degrees of Time in or of the Repetition of this Disease is according to the Agitation of those Half or Undigested humors, which is not always Constant to One Time, but whensoever the Distemper is Past, the Body is Serene and Clear; as for the Remedy, it is to Cleanse the Body with Vomits, Glisters, and Letting blood, and then to apply Digestive Substances.

CHAP. XXVI.

Of Consumptions.

ALL Consumptions are caused by Unnatural Expulsion, caused by Mistempered matter, or Mistempered matter caused by Unnatural motions, such as Work not to the Subsistence or Health of the Body, which after they have Corrupted the Matter, they turn to Expulsions, Throwing all out of the Body; but if they be only Exterior Expulsions, they only Unflesh the House, that is, they do Unflesh the Body; but if they be Interior Expulsions, they do not only Unflesh the Body, but Rot some Part in the Body; and if the Unnatural Expulsions be amongst the Vital parts, which are the

Foundations of the Life of the Body, the whole Fabrick of the Body Falls without redemption, and the Materials go to the Building of other Figures. But if they are Hot Expulsions, caused from a Thin, Sharp, Salt humor, there must be applied Cold Contracting medicines; and if they be Cold Expulsions, there must be applied Hot Contracting medicines. All Cold Expulsions are, when the Parts are Tender, Weak and Raw, and Undigested; and Hot Expulsions are, when the Parts are Burnt or Ulcerated; for all Hot Expulsions work upon the Parts of the Body, as Fire on Wood, when they are Burning Expulsions, or else like as Fire doth on Metall, Melting it into a Liquid Substance; and Cold Expulsions work upon the Parts, as when Clouds Beat down into Showers of Rain, or Flakes of Snow, Breaking or Extenuating those Clouds into Small parts; so that the Dropfical humors that arise from Hot Consumptions, are only Liquid like Melted Metall; and the Dropfical humor that arises from Cold Consumptions, is as a Watery Flood. But, as I said, in all Consumptions the Remedy must be Contractive, or at least Retentive, because the Nature of all Consumptions is Expulsive; but yet all, or the most part of Physicians, finding their Patients to be Lean or Dry, give all Dilative medicines, as if the Parts were only Gathered into a Less compass; but the truth is, when so much of the Natural bulk of the Body is Lessened, so much of the Body is Wasted: I will not
say,

say, but these Unnatural Expulsions might proceed from Unnatural Contractions, like as when any thing is made so Dry, as it Moulders into Dust, but when it comes to that Degree, it Wastes; So whensoever the Body is in a Consumption, the Motions therein are Expulsive: I do not mean by Siege or Vomit, although they will Spit much, which is a Kind of Vomiting, but they Waste by Insensible Expirations. But all Purging medicines are Enemies to this Disease, unless they be very Gentle; for though Purging medicines do not Expulse after the Nature of Consumptive Expulsions, yet if they be Strong, they may in some kind Assist the Consumptive Expulsions; neither is much Letting blood Good in those Diseases, yet a Little Refreshes, and Tempers the Body; for in these Diseases, Physicians must do as Chirurgions when they Cure Wounds, they first Cleanse the Sore or Wound, taking away the Putrified matter gently with a Probe, and then lay a Healing Plaster, so Physicians must gently Purge and Bleed the Patient, and then give him Strengthening and Nourishing remedies. Again, many Physicians have a Rule, that when they perceive their Patients to be Exteriously Dry, they think them Hot; but it doth not follow, that all Drought proceeds from Heat, for there are Cold Droughts as well as Hot, so that a Physician must warily observe the Patients Drought, whether it proceed from Cold or Heat, or whether the Drought proceed from
Want

Want of a sufficient Quantity of Matter for the Body to Feed upon, or that the Matter, which properly should be Porous and Spungy, is Contracted into an Unnatural Solidity; and though the Interior nature of Drought is made by Contraction, yet the Exterior motions may be Expulsive; as for Example, if any thing be Dried to that Degree, as to Fall into Dust, although the Interior be Contracting, that caused it to be so Dry, yet the Exterior motions are Expulsive, that causeth it to Fall into Parts; but the Drought of Consumptions doth proceed most commonly from a Scarcity of Nourishing matter, that should Feed each Part of the Body, for the Principal and Consistent parts being Distempered, cannot Digest so much, as will Feed the Hungry members thereof; but as I have said before, all Consumptions are wrought by Expulsive motions, for what is Contracted, is not Consumed, nor doth Consume, untill it Expulses; but those Bodies that are Lean or Dry by Contractions, are not so always in Consumptions, for nothing is Wasted, only the Dimensions, and Extensions of the Body are drawn into a Less compass. Thus, as I have said, Physicians, although they mistake not the Diseases, yet they may easily mistake the Manner of the Diseases, for one and the same Kind of Diseases may Move after divers Manners in Several bodies, and in one and the Same Body.

CHAP. XXVII.

Of Coughs.

There are many Several sorts of Coughs, proceeding from Several causes, as some Coughs proceed from a Superfluity of Moisture, others from an Unnatural Heat, others from a Corruption of Humors, others from a Decay of the Vital parts, others from Sudden colds upon Hot distempers; Some are caused by an Interior wind, some Coughs proceed from Salt humors, Bitter, Sharp and Sweet; some Coughs proceed from Flegm, which Flegm ariseth like a Scum in a Pot, where as Meat is Boiling on a Fire, for when as the Stomach is Distemperedly hot, the Humors in the Stomach boyl as Liquid Substances on the Fire; those Boiling motions bearing up the Gross humors beyond the Mouth of the Stomach, causing a Dispute between the Breath and Humors, produce the Effect of Straining or Reaching upwards towards the Mouth, much like the Nature and Motions of Vomiting; but by reason those Motions are not so Strong in Coughing as in Vomiting, the Coughing motions bring up only Pieces or Parts of Superfluous Flegm, or Gross Spittle; the like for Corrupt humors; other Coughs proceed from Unnatural or Distempered Heats, which Heats cause Unnecessary Vapors, which Vapors ascending up from the Bowels or Stomach

mach to the Head, finding a Depression, Convert or Change into a Watery Substance, which Watery Substance falls Back or Down, like Mizling or Small Rain, or in bigger Drops through the Passage of the Throat and Wind-pipe, which Passages being Opprest, and the Breath Hindered, causes a Strife, which Striving is a Straining, like as when Crumbs of Bread or Drops of Drink go not rightly through the Throat, but Trouble and Obstruct the Wind-pipe, or when any such Matter sticks in the Passage of the Throat; for when any Part of the Body is Obstructed, it indeavours to Release it Self from those Obstructions; also when that the Vapor that arises, arises in very Thin and Rarified vapor, that Rarified vapor Thickens or Condenses not so Suddenly, being farther from the degree of Water, but when Condensed into Water, it falls down by Drops, which drops Trickling down the Throat, like as Tears from the Eyes trickle down the Cheeks of the Face, the Cough is not so Violent, but more Frequent; but if the Rheume be Salt or Sharp, that Trickles down the Throat, it causes a Gentle or Soft smart, which is much like the Touch of Tickling or Itching, which provokes a faint or weak Strain or Cough; Also Wind will provoke to Strain or Cough, the Motion of Wind is like as Hair should Tickle the Nose, or Wind will cause a Tickling in the Nose, which causes the Effect of Sneezing, for Sneezing is nothing, but a Cough through the Nose,

I may say it is a Nose Cough, and Hickops are but Stomachs Coughs, Wind causing the Stomach to Strain; also the Guts have Coughs, which are caused by the Wind, which makes a Strife in the Guts and Bowels; other Coughs are produced from Decayed parts; for when as any Part is Corrupted, it becomes less Solid than Naturally it should be; as for Example, the Flesh of the Body, when Corrupted, becomes from Dense Flesh to a Slimy Substance, thence into a Watery Substance, which Falls into Parts, or it Changes from Flesh into a Mixt Corrupted matter, which Falls into Parts; the several Mixtures or Distempered Substances, and Irregular motions make Division of Parts, but in the time of Dissolving, and Divisions of any Part, there is a Strife, which causes Pain, and if the Strife be in the Lungs, it causeth a Coughs by Obstructing the Breath; but some Coughs proceed from Vapors and Winds, arising from the Decayed Interior parts, sending up Vapors from the Dissolving Substance, which causeth Coughs, and some Coughs cause Decays of the Prime Interior parts: for when as there falls from the Head a Constant Distillation, this Distillation doth like as Dropping Water, which will Penetrate or Divide Stone; more easily will Dropping or Drilling water, as Rheum, Corrupt Spongy matter as Flesh is; but according as the Rheum is Fresh, Salt or Sharp, the Parts are a Longer or Shorter time a Decaying, for Salt and Sharp is Corroding, and by the

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Corroding motions Ulcerates those Parts those Salt Rheums fall on, which Corrupts, and so Destroys them Soon. But the best Remedies for Coughs and Rheumatick Distillations, are Issues and Letting blood, also to Drink water sweetened with Fine Sugar, for the Water Cools the Distempered parts, and the Sugar Thickens the Rheum; also Water Quenches out the Heat of the Salt or Sharp motions, or Matter mixt in the Rheum, or that which is in the Stomach, Veins, or other Parts; but it must be taken when as the Stomach is most Empty, as in the Morning, and when they are going to Sleep, otherwise when as the Stomach is Full, the Water mixes with the Meat only, but doth not Dilate or Spread it Self into the Several parts and Places, as it would do, if the Stomach were Empty; also when as Rheums proceed from Decayed parts, they must shun Violent exercises; also those that are troubled with Coughs and Rheums, must forbear all Salt or Sharp meats, also all Meat of Uneasie Digestion, by reason Ill Digestion causes Distempers and Unnatural heats. As for Chin-cough, 'tis a Wind or Vapor arising from the Lungs through the Wind-pipe, and as long as the Wind or Vapor ascends, the Patient cannot Draw in Reviving Air or Breath, but Coughs Violently and Incessantly, untill it Faint away, or have no Strength left, and with Straining will be as if it were Choaked or Strangled, and become Black in the Face, and after the Cough is past, it Reco-

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vers again ; and some have many Fits or Repe-
 titions of such Coughing , and some Die with
 so Coughing. As for the Remedy I leave to
 Physicians, but surely Lozanges made to Expel
 Wind , and to Dissolve in the Patients Mouth
 to Infuse by Degrees, or to Mix with the Air, or
 Reviving Breath , by that means may Descend
 with the Breath into the Lungs , by which the
 Patient may be Cured.

CHAP. XXVIII.

Of Dropsies.

Most Dropsies are something of the Nature
 of Consumptions , as being in the way to
 Consumptive Expulsions , for they Dilatate af-
 ter that manner , as the other Expulses , especi-
 ally if they be Dropsies which proceed from
 Corrupt parts, and then they turn to Consump-
 tive Expulsions , and the onely Difference in
 most Dropsies and Consumptions is , that in
 Dropsies, as long as that Disease lasts , the Mo-
 tions in the Body are most Dilatating, which is
 in a Degree to Expulsion , and when it comes
 to a Consumption, they are all Expulsions ; but
 as the Motions differ, so the Diseases differ, for
 there are several sorts of Dilatations , and se-
 veral sorts of Expulsions , nay, some are Diffe-
 rent in the Manner of Working , as if they
 were of other Kinds of Motions ; but some
 Dropsies proceed from Hot dilatations , other

from Cold dilatations, and some proceed from Too many Digestive motions, that is, when there are too Many or too Strong Digestive motions in the Body for the Natural temper of the Body, Digesting so Fast, as to make more Nourishment than the Several parts can receive with Temperance, which makes the Veins and the rest of the Sucking parts Glutenous; or else those many Digesting motions work too Curiously, for by reason they cannot be Idle, they work the Nourishing matter too Fine, or too Thin, for Proper uses; as if Flower should be so often Boulted, that it could not work into a Lump, or be Baked for Bread; or like as any thing should be Wrought upon so much as to become Liquid, as into Oil or Water. Other Dropsies proceed from the Weakness of Digestion, those Motions being not Strong or Sufficient to Work all that is brought into the Stomach; whereupon that Superfluous matter Corrupts with Distempered motions, and when it comes to be Corrupted, it either Dilatates or Expulses; if it onely Dilatates, it turns to Water, if it be Expulsive it Casts forth, either by Vomit or Stool, or else lies to Corrupt the Principal parts in the Body, which when they are joyned together, Expel Life by their Treacherous Usurpation. Other Dropsies are caused by too Weak Contracting motions, causing that to be Tender that should be Solid, or those Parts Loose that should be Firm, as not Contracting Hard enough; for though Meat Di-

lates

lates into Chylus, Chylus into a Thinner substance, and so into Blood, yet by the Nourishing Propriety from Dilating Blood it Contracts into Flesh, and to the Strengthening of all the Parts of the Body, but for want of that Strengthening Contraction, all the Parts of the Body grow Weaker, as to abate of such or such a Kind of Strengthening motion. But, as I said before, that Animate matter in such Diseased bodies turns from Natural Contracting to Unnatural Dilatating, turning by Degrees from one to another, and then the Dilatations work more and more, Extending more and more in such Circular motions as produce Water, for when the Contracted parts come to such a Degree of Extension, they become from being Solid to be Spongie, from being Spongie to be Soft, from Soft to be Liquid, from Liquid Fluid, and when it comes to such a Degree of a Fluid Extension, it turns Wet, and when it is Soft, Liquid, Fluid, and VVet, it is turned to that we call VVater; for Oil, though it be Soft, Liquid, and Fluid, yet it is not absolute VVet, it is rather Moist than VVet, or Glibby and Wet, or Glibby and Moist, so that Oil is a Glibby and Moist body, rather than a Soaking Wet body; but when this Unnatural Watery Extenuation in the Body Extenuates beyond the Degree of Water, it turns to Vapor, which causes the Diseased to be Puft, or Blown like a Bladder, rather than Swell'd out, as we shall perceive, that a little time before the Patient's fall

fall into a Consumption, they will be so Puff out, as their Flesh will be like a Fuz-ball, the next Degree they fall into a Fiery Extenuation, for when the Humor Extenuates beyond Vapor, which is a Kind of an Air, then it becomes Hot like Fire, which is a Hectick fever, and when the Humor hath Extenuated to the Farthest Degree, it Expulses, and so Pulls down and Throws out the Life of the Diseased; but in the Hydripical diseases, there must first be Applied Attractive medicines, to Draw out the Watery overflows, by Issues, Cupping-glasses, or the like; then there must be Applied Expulsive medicines, as Purgings, and Bleedings, and Sweatings, yet they must be gently Applied, for fear of Weakning the Body, by Drawing out the Humor too Suddenly; then there must be Applied Contracting medicines, to Draw into an United substance, as to Gather or Draw up those Parts that have been made Loose, Porous, and Spongy with the Disease; then there must be Applied Retentive medicines, to Confirm and Settle them, after their Natural Manner or Form; then last there must be Applied Digestive medicines, to Restore what is Wasted; but if any of the Principal parts be Impair'd, Wasted, or Expulsed, they neither can be Restored nor Mended, but by a New Creation, which Uncreating Brains perhaps conceive not. But I must intreat my Readers to observe, that some sorts of Motions Begin a Disease, that is, they lay the Foundations thereof, and other sorts of

Motions

Motions Work upon those Foundations. But this is to be observed, that sometimes Dropsies proceed from some of the Interior parts, that are Drier or Harder than Naturally they should be, which Hinders the Natural Digesting motions, and then instead of Natural Digesting motions, there proceed Unnatural Dilatating motions, and after Unnatural Expulsions; but so we may perceive, that from Unnatural Contractions proceed Unnatural Dilatations, and so Unnatural Expulsions.

CHAP. XXIX.

Of Sweating Diseases.

ALL Sweating Diseases are caused by such Kind of Extenuating motions, as Melt Metall, and not by such Kind of Extenuating motions, as Evaporate water, for the Evaporation of the Watery parts of the Body breath forth in Insensible Transpirations, as Breathing through the Pores like Thin Air, but Sweat runs through the Pores like Liquid Oar through Gutters of Earth; but Sweats are Good or Bad for the Body, according to the Matter or Humors that are Melted out; as for Example, I will compare the Humors of the Body to several Metalls, as Iron, Lead, Tin, Copper, Silver and Gold; Iron is Melancholy Aduſt; Lead is Cold and Dry, or Cold and Moiſt Melancholy; Tin is Flegm; Copper is Choler; Silver

Silver is the Radical Humor ; and Gold is the Vital Spirits ; These Humors must be Proportionably Tempered, to make a Healthfull Body ; there must not be Too much Quantity of Lead, Tin or Copper, for the Silver or Gold, but unless there be Some, they will not Work ; like as Coyn, it cannot be Wrought or Formed without some Allay, and if the Allay be Too much, it Abases the Coyn. Likewise there must be so much Heat in the Body, only as to Compound those Humors, not to Melt them out by Sweats, unless they Superabound ; and then Physicians must only have a Care to Melt out that Humor, that Superabounds ; for if the Radical Humor should be melted, or the Vital Spirits spent, it Destroys the Body by Wasting the Life. But in some cases Sweating is very Beneficial to the Body, as in Great Colds, which have Knit up the Pores or Passages of the Body, or in Great Surfeits, or in Malignant Diseases, which helps to Expell the Poysonous humor or Corrupted humors in the Body, or Melt the Icy humors Congeal'd by Cold ; but after those Sweats that are Beneficial, and Wholesome for the Body, the Body will be much Stronger and Agiler, and the Spirits Quicker and Livelier ; but by those Sweats that are Pernicious to the Body, the Body will be Faint and Weak : But in those Diseases a Physician must be very Carefull, when he puts a Patient into a Sweat, as to give such Medicines as will Work upon that Humor he would have Sweat forth ; but in Sweating Diseases,

Diseases, when the Body Sweats too Violently, (like as in Great and Dangerous Fluxes, which are not to be Stayed by Ordinary means) although in those Diseases, there must be used Contracting medicines, yet some Sweats require Hot Contracting medicines, others Cold Contracting medicines, and those Medicines that are Applied, must be applied Gently, and by Degrees, lest by a Sudden Contraction they should Stop the Pores of the Body too much, which are the Doors to Let out the Smoak in the Body, as well as the Sweat of the Body, or by too Hasty Contractions those Passages should be Shut, that should be kept Open, or those kept Open, that should be Shut; but Physicians will Guess by the Patient, what Humors they Sweat forth; for Cold Sweats are from Melancholy; Clammy Sweats from Thick Flegm; Hot Burning Sweats from Choler; Cold Faint Sweats proceed from the Radical Humor; Hot Faint Sweats from the Vital Spirits.

CHAP. XXX.

Of Gangrenes.

GAngrenes are of the Nature of the Plague, and as there are Degrees of Plagues, as some more Deadly than others, so of Gangrenes, and the Highest degree of Gangrenes is like the Spotted Plague, which makes a sudden Destruction of Life; and as one Plaguy Body Infects

an other Body that comes near it, so Gangrenes & although Gangrenes will not Infect several Bodies, yet that Part of the Body that is Gangrened, will Infect the next Part to it. But it is to be observed, that Excessive Heat, and Excessive Cold, work alike Effects, so Excessive Exterior heat, and Interior heat is the cause of Plagues, Inflaming both the Air and Bodies of Men; so many times Gangrenes come through Excessive Exterior or Interior cold; as for Example, when as in very Cold Countries, some that are not Warmly Clad, their Limbs are Dead with Cold, and Limbs of others have been Separated from their Bodies with Cold; and certainly, those Gangrenes that are Bred in the Body, and not caused by Extremity of the Cold Climates, are made or produced through the Want of Natural heat in that part of the Body that is Infected with this Disease. But I have heard that the best Cure for this Disease is, to Fire those Parts that are so Affected, for the Firing hinders or stops the Gangrenes progress.

CHAP. XXXI.

Of Cancri and Fistulae.

Cancri and Fistulae are Produced much alike, as proceeding from an Aqua-fortis, or at least a Vitriol Humor bred in the Body, that is, an Extraordinary Thin, Sharp or Salt humor, that Eats through the Flesh, as Vitriol through Metalls;

Metalls ; The onely Difference betwixt Can-
cres and Fistulaes is, that Cancres are the more
Corroding and Subdividing Vitriol, than that
of Fistulaes are ; Also Cancres are rather like a
Fix'd Salt or Vitriol, than a Volatile ; for it keeps
its Centre, although it Spreads ; whereas
that Humor of Fistulaes runs from Place to
Place, Breaking out in several Passages and Parts
of the Body : but the onely Remedies, if there
be any, are Purging once a Month for some
time, as also Issues, and Letting blood some-
times, but especially to keep a Strict Diet, as to
Eat no manner of Salt, or any thing Sharp, nor
to Eat Over-drie Roasted meat, and to Drink
Ptisan drinks, such as Apothecaries give Young
Gallants. But if this do not Cure those Parts so
Affected, those Parts must be Fired, as Chi-
rurgeons know well how it should be done. But
to conclude, the Interior motions of those Dis-
eases are Dilative, and the Exterior motions Ex-
pulsive.

C H A P. XXXII.

Of the Gout.

AS for that Disease that is named the Gout,
there are Different sorts, but the two Prime
sorts are the Hard Swell'd Gout, and the Run-
ning Gout ; these two sorts of Gout are of the
Nature of Volatile or Fixt Salt or Sulphur, both
being of a Hot and Fiery Nature ; as for the

Fix'd Gout, it is Exteriously Inflamed, unless it be that which is called the Cold Gout, which are rather White Swellings, than that Disease named the Gout. But the Fix'd Gout, as I say, is Exteriously Inflamed, as also Interiously Hot; but the Causes of the Exterior Inflammation are Hot dilatations, and the Causes of the Interior Pulsive pain, are Cross and Opposite motions, for the Hot Contracting and Retenting motions, and the Hot Dilatating motions make War with each other, as that the Contracting motions strive and endeavour to Gather in the Matter, and to Lessen the Swelling, and the Dilative motions strive and endeavour not only to hinder the Contracting motions, but to Dilatate that Matter into a more Swell'd Bulk or Body, and the Retentive motions endeavour, that the Swelling shall continue Hard and Fiery; So that these Oppositions and Cross actions amongst Different motions, make great Perturbances, and Cross Opposite motions, both which cause great Pain. As for the Running Gout, that Removes from Joynt to Joynt, or Place to Place, 'tis of the Nature of Volatil Salt or Sulphur, but it is a Rare Salt humor, and more Rare than that of Cancres or Fistulaes, but not so Corroding as that Humor that produceth Cancres or Fistulaes; but this Humor of the Running Gout is like that of the Sciatica. As for the Disease of the Gout, I never heard, any was perfectly Cured of it, but certainly Fresh diet, Spare diet, and Cooling diet is best for

for the Fix'd Gout; and Cupping-glasses, many Issues in several places in the Body; as also a little Letting blood and Gentle Purging, is best for the Running Gout.

CHAP. XXXIII.

Of Hard White Swellings.

ALL Hard White Swellings, as Wens, and other Sorts of the like Nature, are Composed of a Clammy, Slimy or Tough, Cold humor, which hath been gathered by Cold Attracting motions, and settled by Cold Retentive motions in one Place of the Body, and is made Hard by Cold Interior Contracting motions; but the Exterior swelling is caused by Cold Interior Dilatating motions: But for the Cure, I cannot tell what will Dissolve those Swellings; some are Cut off from the Body as a Superfluous matter and part, but that Remedy is dangerous for fear of Gangrenes, or when those Swellings are too near the Veins, but some cannot be cut off for many several Reasons; for all White Hard swellings are not like Wens, some are like that which is named the King's Evil; but the best Remedy certainly is Triacle and Hony mixt together, and Spread upon Leather, and so bound on the Swelling, changing it once a Day, and to Eat every Morning a Piece of Bread and Butter with Triacle and Hony Spread upon the Bread, and to use Gentle Exercises

cises after. As for Triacle, it is of a Nature to Expel Cold humors, either out of the Body, or to Convert them into a Just and Natural Temper; also it being applied Outwardly, doth endeavour, through the Pores of the Skin and Flesh, to put Heat into those Swellings, and by the Heat to Rarifie and so Dissipate those Swellings, or to Break and Dissolve them; but as for what is Eaten, it must be Moderate, otherwise it may put the Patient into a Fever, for Triacle is Compounded of Hot Cordials or Medicines.

CHAP. XXXIV.

Of the Stone.

THat Disease, namely the Stone in the Kidneys and Bladders of Men, is certainly made by such Kind of Motions and Temperaments of Matter, as Stones in the Earth, which is a Slimy, or Clammy, or Tough humor, that is Hardned by Heat, either Actual, or Virtual, or both. Wherefore all those that fear the Stone, should not use Violent Exercises, nor eat Fiery Meats, nor eat those Meats that are apt to breed Flegm, or to drink any Strong Liquor, especially Sharp Wines; for all Salt and Sharp Substances are apt to Corrode, and by that Corroding motion beget an Excessive Heat, that Bakes their Slimy humors into Stone; but when Stones are bred in those forementioned Parts,

Parts, there are few Remedies to Dissolve them; some there are that give Ease to the Patient in the Passages or Avoidance of those Stones that fall into the Ureters, and some are Cured by Incisions, and Cutting, but that is when the Stones are taken out of the Ureters, but neither Physicians nor Surgeons can make Incisions into the Bladder or Kidnies without a Total ruine, as Death to the Whole body.

CHAP. XXXV.

Of Apoplexies.

SOME sorts of Apoplexies are caused by an Imbred Superfluous Water in the Brain, which being Congealed by a Cold Contraction, falling to the Knitting part of the Head, which is the Hinder part, it Stupefies the Senses, Stopping the Natural motions, as a Flowing River that is turned into Ice, but those sorts of Apoplexies are Curable, if Assistance be taken in time, which is by Hot Dilatating medicines, not only to Stretch out the Icy Contraction, but to Expell that Cold Watery humor by a Rarification; but if the Apoplexie be caused by an Imbred Slime, as Flegm, which is of a Thicker nature than Water, and is become Crusted or Petrified by Hot Contractions, it is seldome or never Cured, no more than Brick, which is once Baked by the Sun, or in a Fire, can be made to such Clay, as it was before it was Burnt; But, mistake me not, for

for I do not mean the Humor is as Hard as Stone, or Brick, in the Head, but Hard in proportion to the Nature of the Brain, that is, the Flegm is Grown so Dry and Tough, as not to be Dissolved so soon as the Nature of the Brain requires it; for though Flegm will be Contracted into Stone, as in the Bladder and Kidnies, yet not in the Brain, by reason the Nature of the Brain is so Tender, and so Sensible, as it cannot Indure so Solid a Substance therein, nor Suffer so Long a Time, as the Humor will be Putrifying, to Stop the Passages to the Brain, not but those Kind of Motions that produce Stone, may be so Strong and so Swift, as to turn Matter into Stone immediately; but I do believe not in the Animal bodies, for they are too Weak Figures for so Strong Motions to work in; But, as I said, these Hot or Cold Contractions, (for both Sorts of Contractions produce Stone) make Tough, Clammy, Crusted, Hard Flegm, which is some degree toward Stone, Flegm if it stop the Passages to the Brain, causeth an Apoplexie; but the reason, why the Watery Contractions are more apt for Cure, is, because the Nature of water is Fluid, and is easily dissolved by Dilatation, Extenuation being of its Interior nature; but Slime and Flegm are more Solid, and not so Flexible to be Wrought upon, as suddenly to Change Shape or Nature, in being Dissolved or Transformed. The third cause is a Fulness of Blood, or a Thickness of Blood, for when the Veins are too Full, there is not Vacuity enough
for

for the Blood to Run in, so the Motion thereof is Stopp'd ; or if the Blood is too Thick, or Clammy , it becomes less Fluid, and the more Solid it is, the Slower the Motion is ; and as the Blood may have too Quick a Motion , by reason of Heat, so it may have too Slow a Motion, by reason of Thickness ; and if the Veins are fill'd too Full of Hot blood , wherein are many Spirits, it indangers the Breaking some of the Veins, like as when Strong Liquor is put into a Barrel, if it be filled too Full, the Strength of the Spirits striving for Liberty, Break the Barrel, the like will the Blood in the Veins, and if a Vein chance to Break in the Head, it Overflows the Brain, and Drowns the Life therein. The last is Gross Vapor, which may ascend from the Bowels or Stomach, which causeth so great a Smoak , as it Suffocates or Choaks the Brain, Smothering out the Life of the Body. All Apoplexies are somewhat of the Nature of Dead Palsies : But the best Remedy for them is Letting blood, and to make Issues in the Leggs , as also Purging the Stomach and Bowels ; as for the Stomach, it must be Purged by such Druggs as Purge Gross and Clammy or Tough humors, but the Bowels must be Purged by Glisters ; also Gargling the Throat, and Sneezing will do Good.

CHAP. XXXVI.

Of Epilepsie, which is called Falling-Sickness.

THIS Disease is caused by a Water in the Brain, which Water is most commonly Green, like Sea-water, and hath an Ebbing and Flowing motion, like the Tides thereof, and when the Water is at Full tide on the Fore-part of the Head, it takes the Diseased after the manner of Panting, and short Breathing, causing them to Beat themselves, and Foam at the Mouth, neither can they Hear, See, Smell nor Speak; the reason is, that the Flowing motion driving the Watery humor so far out, as it Extends the *Pia mater* and *Dura mater* of the Brain, farther than the Natural Extension; which Extension swelling out towards the Outward part of the Head, Hinders all Recourse, Stopping those Passages which should receive the Objects through the Exterior Senses, and the Froth or Slimy humor, which is betwixt the Skin where the Brain lies, and the Skul, being Pressed out, falls through the Throat into the Mouth, and there works forth like Barm, which is called Foaming; but though the Motions of the Head are thus Altered for a time, so as there is neither Sense nor Rational knowledge, yet the Body may be after the Natural course, and not any ways Altered; but the Body
feeling

feeling Life oppress'd in the Head, the several Parts or Members in the Body Strive and Struggle, with what Power and Strength they have, to Release it; like as a Loyal people, that would Defend or Release their Natural and True-born King from being Prisoner to a Foreign Enemy; but when this Water Flows to the Hinder part of the Head, the *Pia Mater* and *Dura Mater* Extending out that way, Stops all the Nerves over the Nape of the Neck, by which Stopping, it Stops the Exterior motions of the Whole Body, by reason that Place is the Knitting-place of those Moving Strings, and when the Water is Flowed, as I said, to this Part, the Diseased lies as in a Swoon, as if he were quite Dead, having no Visible Motion, but as soon as the Water begins to Fall back, they begin to Recover out of the Fits; but as often as the Water in the Head is at Full tide, either of the Fore-part of the Head, or the Hinder-part, the Diseased falls into a Fit, which is sometimes Frequent, sometimes not, for it keeps no Constant Course, Time nor Measure, and according as the *Pia Mater* and *Dura Mater* Extends, the Fits are Stronger or Weaker. Likewise such Green water, with such Motions about the Heart, may produce the same Disease, for oft-times this Green water, or Green Thin humor Ascends, or Runs from several Parts of the Body into the Cisterns of the Head and the Heart; and this Kind of Water or Humor if it be in the Nerves, causes dangerous

rous Convulsions, by reason of the Sharpness that Shrivels up the Nerves; and when it is in the Blood, it causes the Veins to Contract, through the same reason; if in the Stomach, it causes Vomiting, or great Fluxes, by Subdividing the Humors, and the Sharpness Prickling or Tickling the Stomach, provokes a Straining, as Tickling in the Nose doth Sneezing; So the Stomach, either Strains Upwards or Downwards. The best Cure for this Disease is, to make Issues on the Inside of the Thighes or Legs of the Patient.

CHAP. XXXVII.

Of Lethargies.

Lethargy proceeds either from Want of Natural heat, or that the Brain is too Full of Gross humors, or too Full of Watery humors. If it proceed from Want of Natural Heat, Nourishing Food is the best Remedy, but if it be caused by Gross humors, or an Overflow of Watery humors, the best is, to Purge the Patients Head by Syringing through the Nostrils, as also by Syringing the Throat, and to Apply to him Glisters to Draw the Humors from the Head. Also Issues in the Neck are good. The Motions that cause Lethargy are Attractions and Contractions, Drawing up Humors and Vapors from the several Parts of the Body into the Head.

CHAP. XXXVIII.

Of Shaking Palsies.

SHaking Palsies proceed from a Supernatural Extenuation in the Nerves, which by the Extenuating become more Porous and Hollow, and become like a Perpetual Earthquake, having Flatuous or Windy humor in the Bowels thereof, and cannot find Passage out; If it proceeds from a Hot extension, there must be applied Cold Condensing medicines; If it be a Cold extension, there must be applied Hot Condensing Remedies.

CHAP. XXXIX.

Of Convulsions and Cramps.

Convulsions proceed from Contracting motions, quite contrary to the Natural motions of the Body, as Winding up the Sinews, Nerves or Veins; but especially those Sinews which Joyn and Couple the Muscles together, Drawing not onely Contrary, but Contracting Several ways, and after Divers manners; for sometimes the Nerves are, as if we should tie Strings in Bow-knots, others, as if we should Wind up Lute-strings or Pegs; and some are Twisted like Whip-cord, and many the like ways, which would be too long to Recount;
but

but these Contractions proceed either from a Wind got into the Nerves or Veins, which troubles them, as the Wind-cholick doth the Guts, or a Sharp humor that Shrivels them together, or a Salt Watery humor, Mixt with Wind, which Strugling and Striving together, Turns, Winds, Folds or Rollsup the Nerves, like the Waves of the Sea, or a Cold Icy humor, which Draws and Gathers in the Nerves, as Frost will do all Spongy bodies, or some Thick Clammy humor, which Stops some Passages, which causeth the Natural motions to turn Irregular; but if the Humor be onely in the Veins, it is Cured by Letting blood; if the Blood be Corrupted, Sharp, or Salt, or if the Blood be Cold, Windy or Watry, Hot Liquid medicines Cure it, or Cordial water, or the like; and if it be a Cold humor in the Nerves, Hot Oils and Extraordinary Hot medicines Cure it, or the Spirit of Castor, Oil of Amber, and the like; but if it proceed from a Salt, Sharp, Watery humor, or a Thick Clammy humor in the Nerves, it is seldom or never Cured, because it is not easily got out, neither can Medicines so suddenly get into the Nerves, as into the Veins; for though the Cold in the Nerves may be easily Cured, by Melting and Dissolving by the Comfortable Warmth, or Violent Heats from the Hot Cordial medicines, which Spread about the Body, as a Great Fire in a Chimney, which Spreads about and Heats all the Room, if the Fire in the Chimney be answerable to the Bigness

ness or Largeness of the Room it is in, and the Lesser the Room is, and the Bigger the Fire is, the Hotter it is; Wherefore it is to be considered, that those, that are at Full Growth, or are Larger of Body, if thus Diseased, ought to have a Greater proportion, or a Larger quantity of those Medicines, than a Child, or those that are but Little of Stature; for though those that are of a Little Stature, may be more Strong than those that are of a far Bigger bulk, yet in the cause of Diffusing or Dilatating medicines, the Circumference of the Body must be considered as well as the Strength of the Medicines; and if the Convulsion be in the Stomach, caused by the afore-said Humor, Purging Medicines or Cordials may Cure it, unless the Stomach is Gathered, Shrivell'd, or Shrunk up by an Unnatural Contracting heat, like as Leather that is put into the Fire, which when so, the Stomach can no more be Cured, than Leather be made Smooth, which is Shrunk up in a Purse by Fire; after the like manner as Convulsions, are Cramps, but Cramps most commonly are only Contractions of the Small Veins, which Tie or Twist them up, and many times so Hard, as they Break; for those, that have been much troubled with the Cramp, will have all the Skin, where the Cramp hath Taken them, Streaked with broken Veins, I mean the small Hair-veins; but Rubbing the part Grieved, with a Warm cloath, will Untie and Untwist them again, by Dissolving the Cold, or Dispersing the Wind,

Wind, or Rarifying the Blood therein, this we find by Experience ; VVherefore I should think, that in Convulsion fits, that are caused by the like, that if the Diseased should be Rubbed with Hot cloaths Outwardly applied, as well as Hot medicines Inwardly taken, it might do the Patient much good. But I must Remember my Readers, that in Convulsions, the Strength of the Medicines Inwardly taken, must be according to the Strength of the Fits ; for if they be Strong fits, Weak medicines do no Good, for more Strength goes to Untie a Hard knot, than a Loose knot, or to Untwist a Hard string, than a Loose string ; besides, it is hard to Know after what manner the Knot is Tied or Twisted, and many indeed are so Ignorant of Medicines, or the manner of the Disease, as to Apply such as shall Hap of the Right end, as those which are Cured, are cured by Chance, and Chance hits so seldome right, as not One of an Hundred escapes of these Kind of Diseases, if the Disease is any ways Violent, for then the Motions tie so Fast and so Strong, as they break the Life of that Figure asunder. There be Natural Contractions, and Unnatural Contractions, that is, Proper or Improper to the Health of the Figure.

CHAP. XL.

Of Collicks.

ALL Collicks are towards the Nature of Convulsions, or at least Cramps. Some Collicks proceed from Raw Undigested humors, some from Sharp Melancholy humors¹, others from Cold Flegmatick humors, others from Hot Cholerick humors, others from Putrified humors ; Some Collicks are in the Stomach, others are in the Bowels, as the Guts, some in the Sides, and sometimes in the Veins ; but these Collicks are Cramps ; but the causes of all Collicks are Extenuating motions, though the Effects are oft times Contracting, but if the cause be Contracting, it is a Cramp, not a Collick, for a Collick is properly Wind, produced from the afore-said Humors, that is, when those Humors Extenuate farther than a Watery Extenuation, which turns into Vapor or Wind, which Vaporous Wind, or VVindy Vapor, striving to get Vent, being Stopped by Groffer vapor, or Thicker humor, runs about in Cross motions, which cause Pain ; for the Extenuating motions thrusting Outward, and the Resisting motions thrusting Backward, run Cross, or Beat on each other, which causeth Pain ; and as long as the Strife lasts, the Body hath no Ease, untill some Assistance in Medicines be given, or that it can Over-master the Resistent motions ;

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but when once it hath Liberty, it Flies out in Expulsive motions, at all Vents; but if the Extenuating humors be Broken or Dissolved in the Body by the Well-tempered motion therein, or Expulſing of it Self, it Evaporates through the Pores of the Body in Inſenſible Tranſpirations; but if the Extenuating can find no way to be Expulſed, it Gathers Inward in ſmall and ſmaller Rings, like a Scrue, drawing in the Guts or Stomach, Stopping the Paſſages thereof, whereby the Body can neither receive Nouriſhment, nor ſend out Excrement, with which the Body is brought to an utter Deſtruction; this Diſtemper is oft times produced from Sharp, Hot, Cholerick humors, which Sharpneſs hath a Natural Contracting quality, which is rather of the Nature of a Cramp, or a Convulſion, than the Nature of a Collick; howſoever, Expulſive medicines are good in theſe Caſes. Convulſions are Collicks in the Nerves, and Cramps Collicks in the Veins; and as the Cholick in the Stomach or Guts proceeds ſometimes from Wind, and ſometimes from Crude, Bilous, Sharp humors, ſo doth this.

CHAP. XLI.

Of Surfeits.

Surfeits are Superfluities; as too much Heat, or too much Cold, or when there is taken into the Body too great a Quantity of Meat, or Drink,

Drink, or the like. Likewise when the Nature of the Meat is Disagreeing to the Nature of the Body, there one Scruple will be too much, and will give a Surfeit, for Surfeits do not onely Oppress by the Superfluous Quantity of Matter, but Disturb by the Superfluous Motions, the Disagreeing matter, causing more Motion than Naturally belongs to a Healthful body; besides, like a Company of Rude and Unruly Strangers Disturb and Hinder the Regular motions, altering the Natural Constitutions and Uniformity of the Body, and many times Ruine the Body, unless an Assistant motion in Medicinable matter is brought to help to Expel the Superfluous, or that the Natural Expulsive motions in the Body are Strong enough, to Throw out that Ill Matter, either by Vomit, or Stool, or other Evacuation; but many times the Superfluities become so Strong, not onely by their own Ill Nature, or Great Quantity, but by making a Faction, and so begetting a Party amongst the Natural motions, which makes such a General Disorder, that though the Natural Digestive motions, and the Natural Expulsive motions joyn with the like Assistant motions taken in Medicines, yet the Body shall be Ruinated, and Life cast out by that Matter and these Motions, that are their Enemies therein.

CHAP. XLII.

Of Natural Purging, and Unnatural Fluxes.

THere are many Several sorts and many Several manners of Purging, for all the Superfluous matter, which is named Excrements, pass forth of an Animal body, as Man, by Purging, as from the Mouth, Nose, Eyes, Ears, Pores of the Flesh, and from the Lower parts; but these Purgings are Natural, without which the Body could not Subsist; for if Motion did not carry forth the Superfluous Substance or Matter in the Body, there would be no Place nor Parts capable to receive Nourishing Matter or Substance; but as there be Natural Evacuations and Natural Nourishments, so there are Unnatural Evacuations and Unnatural Nourishments, as to Evacuate Violently or Irregularly, or to Evacuate that which should Remain; also for Nourishment, as to Nourish some Parts More than other Parts, or to Nourish a Part More than it should be Nourished, or to Nourish Superfluities, or to Nourish some Diseases made by Unnatural Conjunctions, or Propagations of Humors, or Temperaments and Motions; but for the Unnatural Evacuations, all Fluxes are Unnatural, let them be from any Part of the Body, yet I cannot say they are Unnatural, as that they are not Incident to the Body, but Unnatural as being an Irregularity in the Body, for

for all Violent Fluxes are Accidental to the Body, but not Ordinary. But all Violent and Unnatural Fluxes are Dangerous, especially some sorts of Unnatural Fluxes, as Spitting, Bleeding, for those Fluxes most commonly proceed from Decays of some or one of the Vital parts; but mistake me not, I mean not such Fluxes of Spitting and Bleeding, that are produced from Catching Cold or Superfluity of Humors, or such Bleeding as proceeds from Violent Motion, or Agitation, or a Superfluity of Blood, but such as proceeds from some Decay of Vital or some Bruised Parts, or Broken Veins, or Impostumes, or the like; also some sorts of Vomitings and Purgings by Siege are Dangerous, as such as proceed from an Unnatural, Interior, Fiery heat, whose Motions do so Divide and Subdivide the Humors, as causeth them to be so Rare and Agil, as not to stay in the Body, in which, Irregular motions disturb the Regular motions and Parts, which is many times the cause of the Bodies utter Diffolution.

CHAP. XLIII.

*Several Causes of the Flux, of Purgings
or Vomiting.*

UNnatural Vomiting and Purgings is caused many ways; sometimes by reason the Body is too Full of Humors, and sometimes by reason

reason of Eating or Drinking more than the Stomach can hold, or Eating and Drinking that which Disagrees with the Humors in the Stomach, or that the Stomach is too Hot or too Weak; and sometimes by Unusual motions, or Violent motions caused from Violent passions or Imaginations, which have Disturbed the Sensitive motions of the Body; But those Purgings and Vomitings that are most Dangerous to the Consistence of the Body, are caused by Unnatural humor bred in the Body, which is of the Nature of Quicksilver, although the Colour of that Humor is Green or Black, and the Taste Bitter or Sharp; but these Humors when they are Strong either in Quantity or Effect, they cause Violent Evacuations, Dividing and Subdividing the Natural Consistent Humors, or otherwise they set the Stomach in an Unnatural fire, these Humors being Strongly indued with Fiery motions, so as the Stomach becomes like as a Foul Chimney set on a Flame, which causes the Humors like Soot to flie Upward, and some to fall Downward, and many times it Burns the whole House by their Violence; but if their Motions be not so Violent, then they onely move as Boyling Liquor, which Over-flows or Rises Higher than the Mouth of the Stomach; but the most Dangerous Effect is, when as these Humors Penetrate into the Substantial or Vital parts. As for the Remedies, when as the Stomach is Sick to Vomit, through any Undigested meat, or through

a Superfluity of humors, or when it is Sick to Vomit through a Pernicious humor, the best Remedy is presently to give the Patient a Vomit, but if the Stomach strain to Vomit through an Unnatural heat, the best Remedy is to Let the Patient Blood under the Tongue, and then in the Arm, and if the Stomach be apt to Vomit through a Weakness or Relaxedness, the Patient must have Restraining Cordials. As for Purging Fluxes, if the Flux be caused through a Superfluity of humors, or through some Evil humor, then the Patient must be Purged, and take Diet-drinks, also the Patient must be Kept to a very Spare Diet; if the Flux comes through some Excessive heat, as after Violent exercises, or the like, the Patient must be Let blood; if the Flux proceed from Weakness, or that the Bowels are too Relaxive, the Patient must use Restraining Diet, also he must be Purged gently with Rhabarb, which is both Restraining and Comforting, but in all sorts or degrees of Fluxes, there is nothing better than Laudanum, such as is prepared by Doctor *Davidson's* Prescription; the Quantity must be from One Grain to Two and Three, but above Four must not be taken, and to put it in a Small Pill of Bread, and so Swallow it down; the time of Taking is, when the Patient goes to Sleep, but the Patient must not Eat nor Drink in Three Hours before the taking of it, and when taken, lie still to Rest; as for this Laudanum I have had Experience, for when I was in *France* with

with the Queen of *England*, I had Died of a Purging Flux, if I had not taken Doctor *Davidson's* Laudanum, and he gave it me every Night for a Week together, and I was Cured.

CHAP. XLIV.

Of the Diseases in the Head, and Vapors to the Head.

Diseases and Swoonings, which are Diseases belonging only to the Head, differ as the Motions and Mixture, and Forms of Matter differ, for no Diseases, although of one and the same Sort, are just alike; but although these Diseases belong only to the Head, yet the Motions and Humors of the Stomach have greater Affinity to the Head, and many times cause the Diseases therein, by the Course and Re-course thereto and therefrom; for some Humors falling from the Head into the Stomach, do so Dis-affect that Part, as it returns more Malignity up again, and sometimes the Stomach begins the War, sending up such an Army of Ill Vapors, as many times they do not only Disorder the Head, but totally Ruinate it; but most commonly the Vapors, which ascend to the Head, are gathered by Contracting motions into Clouds, as Vapor is which ariseth from the Earth, and as long as the Vapor is in a Cloudy body, it makes that Part feel Heavy, and the Senses Dull by Obstructions, for it Stops the Nose, Dims the Sight,

Fills

Fills the Ears, Blunts the Taste, and Numbs the Touch, especially if the Obstruction be caused from a Cold Contraction, which Congeals the Vapor to an Icy Substance, but when it is Expulsed by a Hot Dilatation, it falls down like Hail, or Flakes of Snow, by which, I mean Cold Glassie Flegm, which Cold Flegm doth most commonly as Snow doth, which covers the Face of the Earth, so this Flegm covers, or stops the Mouth of the Stomach, and Deads the Appetite thereof; but the Danger is in these Cold contractions, that if they should last too Long, they may cause Numb-palsies, or the like, and if Contracted, so as if one may say, CrySTALLINED, it may cause an Incurable Dead Palsie; but if it be Dispers'd by a Hot Expulsion, it is Dissolved in Thundering Coughs, or Falls like Pouring Showers of Rain, Running through the Spouts of the Nose, Eyes and Mouth, and through the Pores of the Skin, and sometimes falls into the Bowels of the Body, the Stomach, and the Intrails; but if some of the Flood-gates chance to be Stopped by Obstructions, these Showers may chance to Over-flow the Body, and make an utter Destruction, otherwise they only Wash and Cleanse these Parts; but if Vapors be Gathered by a Hot Contraction, they become Sharp and Salt, as being of a Burning quality; and if they be Dispers'd by a Hot Expulsion, they fall down like a Misting Rain, which hath a Soaking and Penetrating faculty, Cutting and Peircing those Parts they fall on,

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by

by Insensible degrees, which Rots the Vital parts, not only by the Sharpness which Ulcerates, but by a continued Unnatural Weakness, which, if once the Parts begin to Decay, which is the Foundation, the Building must needs Fall.

CHAP. XLV.

Whether the Brain turns Round or not in the Head.

ALthough Thin Vapor may get betwixt the Skul and the Brain, and likewise Slimy Humor; yet I imagine not that the Brain is Loose from the Skul, so as to Flap, Flash, or to Strike against the sides of the Skul, when the Head is Moved, or to turn Round, although it is a common Phrase to say, My Brain turns Round in my Head, when they are Dissie; but I imagine it is not the Brain that turns Round, but the Vapor or the Humor therein; 'Tis true, the Brain turns Round, when the Whole body turns Round, but so as it turns Round with the Head, as one Part, not in the Head as a Part by it self; and the reason, that the Dissiness is Cured by turning the Contrary way, is, that the Sensitive motions therein are turned toward their Moderate, Natural, and Accustomed manner of Moving; for the Violence of turning Round, forceth the Sensitive motions, as the Wind doth the Air or Water, driving all one way,

way, as before it, or rather like a Scrue or a Wheel, that Winds up those Motions, as Thread upon a Spindle, and so Unwinds the contrary way.

CHAP. XLVI.

Of the Sound or Noise in the Head.

WHen there is a Thin Vapor got into the Head, as betwixt the Skull and the Brain, and runs about in Circular lines as a String about the Wheel, it makes a Humming noise, as a Turning Wheel doth, and the more, by reason the Head as well as the Vaporous lines is Spherical; and though the Brain may stick close to the Scul, yet not so Close but a Thin vapor may get betwixt; but if the Vapor be gathered into Little Hollow balls like Cymbals, and runs about the Head, it causes a Noise like those Cymbals, as a Tinkling or Gingling noise. But if the Vapor in the Head hath Intermitting motions, the Sound is like Musical Instruments, for the Stops, like Notes, make the Divisions; and according to the several Motions in the Head, is the Sound made therein, although the Ear is stopp'd without.

CHAP. XLVII.

Of the Head feeling Numb.

WHen the Skins which wrap up the Brain, as the *Pia Mater* and *Dura Mater*, are Contracted by an Inward cold, or an Outward cold, taken in at the Nose, Ears, Mouth, or Pores of the Skin, they Shrivell, or are Drawn in as a Handkerchief, or the like, when we carry some Bulk within it, and when those Skins are Drawn into a Straighter compass than the Nature is, it Presses upon the Brain, as being too Strait, wherein the Brain cannot freely Move. Besides, the Veins and Little Small Strings that run about the Brain, being Contracted with Cold, the Blood in those Veins cannot so freely Run, those Strings being Shrunk, make the Brain feel as if it were so Hard bound, as to be Numb; but this doth rather Afright the Life of the Diseased, than Destroy it, for a little Warmth, by Rubbing the Head, or a Hot Cloath laid on the Head, or some Warm Spoon-meat Cures it. Also Numbness may proceed from too much Blood in the Veins, or too much Matter in the Nerves, which being Too full, cause a Stopping, for want of Space or Room to move Naturally in, but this Numbness is not so easily Cured, especially when the Oppressions lie in the Nerves, for Opening a Vein gives Liberty to the Blood, but

but I know not how one should so easily open a Nerve, neither is the Matter within so Liquid, as suddenly to run out ; but this Numbness is rather of the Nature of a Dead Numbness, than a Sleepy Numbness.

CHAP. XLVIII.

Of the Season and Diseases of Winter.

IN every Season there be all Sorts or Kinds of Diseases, amongst Animal kind, especially that Animal named Man, but yet some Sorts or Kinds of Diseases are more Frequent in some Season of the Year than other ; But Dividing the Year into Four Seasons, as Winter, Spring, Summer, and Autumn, I will begin with the Coldest, as Winter. The Diseases that are most frequent in the Season of Winter are Coughs, Cathars, Tooth-akes, Rheums, as Running or Dropping a Watery substance out of the Nose, Eyes, as also the Mouth ; Also this Season breeds Apoplexies, Megrims, Lethargies, Palsies, Gangrenes, Cramps, Convulsions, Impostumes, and the like. As for the Winter season, it is Strongly Indued with Cold contractions and Cold dilations, which causeth Frost, Snow, Cold rains, and Cold winds ; As for the Cold contractions, as they Contract the Moist Elements into a more Densified body, than Naturally they should be, so they do Animal bodies, which by Nature are Porous and Spongy ;

gy, and some Parts Liquid and Wet; but by Cold contractions those Parts that are Porous and Spongy, as the Flesh, are more Hard and Dens'd by Cold contractions than Naturally they are, and the Exterior Cold contractions work upon the Exterior parts of Animals, Contracting close the Pores of the Skin and Flesh into a Closer or Less Compass, and sometimes close up those Porous passages, which Hinders them from all Intercourse, which Hinderance causes many Diseases, by reason the Superfluous matter in the Body cannot Pass out, nor Refreshing or Reviving matter cannot Enter in, as through the Pores; for through the Pores of the Flesh Pass and Repass the most Rare substances Into or From the Body, as Water, Vapor, and External heat, and Sweat, Smoak, and Internal heat. But it is to be observed, that the Natural heat Bred in the Body, and the Nourishing food Taken into the Body, Begets or produces both Vital and Radical vapor, which the Learned Physicians name Animal and Vital Spirits; also the Natural heat and Ordinary food begets or produces Superfluous vapor, which Superfluous vapor, when as it cannot Issue forth of the Body, doth become Gross, Corrupt, and Malignant, as also Over-powerful and Destructive; But for Diseases, I will first begin with Rheums, which are very frequent in Winter-season, wherein the Pores of the Body are stopt by Cold contractions, which causes the Pores of the Skin and Flesh to be like

like as a Luted Alembick, or like as a Glass-Still set a Working, for the Daily Food and Natural Heat in the Body Operating together, the Natural heat Separates the Several parts of the Food, Densing some and Rarifying others, whereof some are Necessary for the Consistence of the Body, and some others of those Parts are Superfluous, for which Superfluities there are Natural Passages in every Animal Creature to Issue out, whereas the Rarest and most Rarified parts Issue through the Pores of the Flesh, which Pores when as they are Stopped either by Exterior or Interior Contracting motions, they cause divers Diseases; for when as those Rare Superfluous parts, as Superfluous Vapors Dilatate by a Natural Dilatation to the Circumference of the Body, finding a Resistance through the Obstruction or Contraction of the Porous doors or passages, Depress or Recoil, which Depressions cause the Dilatating vapors to Contract into a Dew, and then into a Water, which Water being Unnecessary and Superfluous, causes a Disorder in the Body, unless it can find a Passage out, which sometimes it doth, but not always; but for that Vapor, that Ascends to the Head, and is Depress'd in the Head, like as the Top of a Still, the Water which is made there, is apt to Drop or Run through the Nostrils of the Nose, or through the Corners of the Eyes, or out of the Mouth; but if there be more than can be Vented through those Passages, it Falls into the Lungs, or into the Stomach,

or

or other Parts, like as Misling Rain, all which causes Coughs, Pozes, Spitting, Difficult Breathing, and the like; but for Difficult Breathing, it is caused by the Stoppage of the Wind-pipe, which the Falling Rheum or Water causeth: But if the Superfluous Vapor that should Pass through the Pores, and cannot Pass, but Remains in the Body, where by Time and Change of Motion it becomes from Thin Vapor to Thick Vapor, from Thick Vapor to Water, from Water to Slime, from Slime to Flegm, from Thin Loose Flegm, to Thick Hard Flegm, it causes Unnatural Obstructions in the Several parts of the Body; but when as that Superfluous Vapor or Matter hath Several sorts of Motions working in it, as some Hot, and some Cold Contractions, also some Hot, and some Cold Dilatations, Digestions, and the like, it causes that Vapor to become of a Corrupt Substance, as partly of one Substance, and partly of another, for in all Corruptions there is an Irregular Mixture of several Motions, which causes several Distempers of the Matter, and so several Diseases, whereof Impostumes^{are} one sort. But if the Superfluous Vapors do Superabound, and Ascend up to the Head, they Choak the Brain, and the Interior passages and Vital parts of the Head, which causeth Apoplexies, Megrimms, or Lethargies, especially if the Vapor be Gross, and when as the Vital or Radical vapor, which is named Spirits, is Contracted by an Unnatural Cold contraction, there proceed Gangrenes

grees in those Parts, where those Contractions are made ; and when as by the Exterior Cold contractions, or Interior Cold contractions, the Pores which are the General Doors or Passages of the Body, or in some Part of the Body, are quite Shut or Closed up, there must necessarily proceed a Dead Palsie in those Parts, or in the Whole body, by reason all Sense of Touch Lives in those Passages, Doors, Parts or Places, namely the Pores of the Flesh, but if those Passages or Pores be but Partly Unnaturally closed, they only produce Numb Palsies, which may become Dead Palsies in time. But all these Diseases may be made by Hot contractions, or Hot dilatations, as well as Cold, if they work to the same Effect ; as for all Sorts of Rheums, they are partly made by Contractions, and partly by Dilatations, as my Readers may observe in my former Discourses of Loose Elements and Humors.

CHAP. XLIX.

Of the Season of the Spring, and the Diseases most Frequent therein.

THat Season of the Year, which is named the Spring, is more Strongly indued with Attractive, Digestive, and Dilative motions, than it is with Expulsive, or Retentive motions ; by reason it is the chief Season of Creation, but yet these Attractions, Digestions, and Dilatations,

tations, are inclining more to the Hot than the Cold temper ; in truth, it is a Time or Season, when as all Motion is the most Equal Mild or Temperate, and yet there be many Violent Diseases in this Season ; the reason is , that many Diseases, that were Bred in the Winter Season, do appear in the Spring Season , as being not brought to Maturity untill the Season of the Spring, for Superfluous vapors wanting Vent, not only breed Distempered humors, but have Distempered the Natural and Well-tempered humors by Irregular motions. The Diseases that are most Frequent in the Spring, are Agues, Plurisies, Green-sickness, or Short-breathing, Consumptions, Pains in the Stomach and Head, and many such like Diseases , all which are by Inward Corruptive Obstructions, and Irregular motions, caused by the Unnatural Contractions of the Exterior pores or passages of the Flesh, and Skin of the Body.

CHAP. L.

Of the Season and Diseases of the Summer.

THat Season or Part of the Year, named Summer, is Strongly indued with Hot dilations, and Hot contractions , and the Diseases that are most Frequent in this Hot Season, are Phrenesies, Burning-feavers, Plagues, Spotted-feavers, Small-pox, Measles, Scabbs, Leprosies, and all Exterior Swellings, Sores, and Pains, Sweating,

Sweating, Faintness, and Swooning, all which Diseases are made or produced by the Excess of Hot motions; for when Several sorts of Motions do not work Equally, according to the Matter they work On, or the Creatures they work In, they cause a Distemper and Irregularity of and in the Natural humors and Vital parts of the Body; and the several Diseases are made or produced by Excessive Hot contractions, but the breaking forth of those Diseases is by the Excessive Hot dilatations, for the Dilatations drive those Diseases either Wholly or in Part, unto the Extreme parts, and if the Dilative motions be Stronger than the Contracting motions, those Dilating motions Drive or Carry those Diseases so Clearly and Generally out to the Extreme parts, as they leave none of the Disease, or otherwise so little of the Disease in the Body, as not to Indanger the Vital parts in the Body; but in many Bodies there is great Strife betwixt the Hot Contractions and Hot Dilatations, in which Strife the Body suffers much Pain and Sicknes, and according to the Victory of either sort of Motions the Body Lives or Dies; for if the Excessive and Irregular Contractions, which are the Cause of those Diseases, get the Better, the Body Dies, by reason the Contractions keep the Disease so near the Vital parts, as they become Infected with the Distemper of the Disease; but if the Excessive Dilatations (for if the Dilatations were not Excessive, they could not Dispute with the

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Excessive

Excessive Contractions) have the Victory, either by their own Proper Strength, or by some Assistance, the Body Lives, for Dilatations Drive out all Malignity beyond all Danger. But all Dilative medicines are best, onely the Difficulty is to Understand, what Medicine or Matter is Indued most with such or such Motions, but Experience, Time, and Trial will Inform the Understanding much. But, this is to be observed, that sometimes two or three Diseases will joyn together in one Body; also it is to be served, that some Bodies are Weak, or that some of the Vital parts were Decayed, before any of those Diseases were entred into them, or were made in them, and when the Disease joyns with the former Imperfections or Decays, and the Body Dies, Physicians or other Acquaintance judge, their Death was caused Absolutely of that onely Disease, and that there were no such Remedies, as might be Applied to the Sick Person, and the Friends of the Dead man are apt to Complain of, or Condemn the Physician for want of Skill, or that he hath been Negligent, although there could be no Remedy to Cure that Sick person, nor no Reprieve from Death could be made; and on the other side, when as a Disease seizes on a Well-tempered, or Sound-bodied Man, and that his Strong and Well-tempered parts and Regular motions are too Strong for his Distempered Disease, Humors, or Parts, and the Sick man Recovers, then the Friends of the Sick man Commend and Approve

Approve of his Physician, saying, He was the onely Cause of his Recovery, when as it was the Man's own Sound or Strong Constitution of his Body, at least his Constitution did help the Physician's Art to Recover the Sick man to Health. Thus we may perceive great Mistakes concerning Diseases, and not onely Mistakes in the Parts of the Body, but oftentimes in the Nature of the Disease, as also the Remedies; Wherefore this Study of Physick is a Difficult Study, and the Practice of a Physician requires great Observations and Experiences, as also Diligence.

CHAP. LI.

Of Autumn, and of those Diseases that are most Frequent therein.

Autumn is Strongly indued with Expulsive Motions, in truth, that sort of Motions seems chiefly to Rule or Predominate, and those Diseases, that are most frequent in that Season, are Fluxes of all Sorts and Kinds, and for the most part the former Summers Excessive Contractions are one of the Causes of the Autumns Excessive Expulsions, for one Extreme changes into another Extreme; also it is to be observed, that the Nature and Motions of the Spring is to Create and Unite, and it is the Nature and Motions of the Autumn to Dissolve and Expulse; for there are many Things and
Creatures

Creatures that the Spring Makes, which the Autumn Destroys. As for Diseases, it is to be observed, that the Luxurious Appetites of Men in Feeding on the Delicious Fruits of and in the Summer-Season, are the Cause of many Diseases; some through Surfeits, and some through the Disagreeing Substance of those Fruits received into the Body.

CHAP. LII.

*Of the Infections of Animals, Vegetables,
and Elements.*

SUCH Motions as Corrupt Animal bodies, Corrupt Vegetable bodies, and as Corrupt and Malignant Air is Infectious to Animals, so likewise to Vegetables; and as Malignant diseases are Catching and Infectious to those that come near them, so oftentimes Vegetables are Infectious to Animals, as Herbs and Fruits, which cause some Years such Dangerous Sicknesses and Killing Diseases to those that Eat thereof; Likewise those Bodies that are Infected, do Infect Sound and Nourishing food, when once it is Eaten, causing that, which is Good, also to become Malignant, when once in the Body.

CHAP. LIII.

The Superfluities of the Humors, as Flegm, Choler, Melancholy, and Blood.

THE Loose and Necessary humors in Animal bodies, are Flegm, Choler, Melancholy, and Blood, but when as any of these Loose humors Superabounds, that is, when as there be more of any one of these Humors, than the Nature of the Body requires, that or those Superfluities of Humors do Distemper the Body, causing many Diseases, as Feavers, Agues, Impostumes, Consumptions, Stone, Fluxes, Convulsions, Apoplexies, Megrims, and the like; and when these Superfluities Dilatate to the Extreme parts, they cause Cancres, Gangrenes, Fistulaes, Wenns, Kings-evils, Wolfes, Scabbs, Itches, and the like; and when they Superabound so much, as to Infect the Inward parts, as also to Dilatate to the Outward parts, they cause Spotted-feavers, Plagues, Small-pox, Measles, Leprosies, Gouts, and the like; and sometimes the Infection of the Inward parts Dilatates to the Outward parts, and sometimes the Dilatated humors from the Outward parts Fall back, or Penetrate inward, and Infect the Inward parts. But it is to be observed, that the Motions of the Humors Vary and Change not only in Several parts of the Body, but from one Humor into an other; also it is to be observed, that

that these Humors often Intermix one into an other, which may easily be perceived by the Nature of each Disease, as to find or perceive, whether they be Compounded or Intermixt diseases, or a Disease of a Single humor; also it is to be observed by Human sense and reason, that the Intermixing and Conjunction of Several Humors by Irregular motions doth many times beget a Deformed humor, that is, an Unnatural humor, as a Humor that is Hurtfull and Dangerous, if not Destructive to the Body. But the Veins are the Reception for the Blood, the Gall is the Reception for the Choler, the Splene is the Reception for Melancholy, the Brain is the Reception for Flegm; but the truth is, that all those Humors are Intermixtly in all Parts of the Body, and it is Natural for those Humors to be so, but that which is accounted Unnatural, is for any of the Humors to Superabound, as not to keep in such a Proportion, or as when they Intermix Crossly, as Untimely, Unequally, or Irregularly, all which causes many Several Diseases. But as these Humors are of several Tempers, several Degrees, several Motions, several Functions, so several Colours, and several Tastes, as Yellow, Green, Black, Red, White, Bitter, Sharp, Salt and Sweet.

CHAP. LIV.

*Of those Parts of the Veins, which draw
Nourishment in the Body.*

VHen as the Veins are too Full of Blood, the Mouth-veins cannot Draw according to their Proper faculty from those Parts of the Body, that they should draw Nourishment from ; also when the Mouth-veins are Weak, they cannot Draw a sufficient Nourishment to make Blood , neither when that they are Obstructed ; but mistake me not , I mean those Parts of the Veins as draw Nourishment from the Liver, or other Parts ; but from Fulness, Weakness, or Obstruction, proceeds Corruption of Parts, Impostumes of Blood, Breaking of Veins, or Emptiness in Veins , which causes the Body to be Weak, Faint, Lean, Pale, and Ill-coloured ; also it causes Quinzies, and Sore Throats, and many the like Diseases. But the Veins may be too Full of Blood , not only to Hinder or Retard the Attracting motions of or in the Veins, but the Intermixing and Digesting motions of the Blood , causing the Blood to be Corrupted, or too Thick and Cold , for the Blood may Agitate too Little as well as too Much , which may cause Numbness or Deadness of Parts, which is called Numb or Deadpalsies, and Apoplexies, and many such Diseases, whereas the too much Agitation of the Blood

G g g causes

causes Heftick Feavers, and other Feavers ; but this is to be observed , that in most Diseases, Letting blood is very Good and Profitable for the Sick Patient.

CHAP. LV.

Of the several Motions in an Animal Body.

VWhen a Body is in Perfect Health , the Motions therein do not only work Regularly and Proportionably , Placing every Part of matter Rightly and Properly, Mixing and Tempering the Matter as it should be, or as I may say, Fitly , that is, when the Quantity of Matter or Humor is Proportionable, and the Motions move Equally ; for though every Kind or Sort of Motion may move Evenly, and keep Just time, yet not Equally, or Harmoniously ; as for Example , say there were a Company of Musicians, and every one Played Skilfully, Justly, Tuneably, Timely, on the same Notes ; yet may there be too many Trebles for the Tenors and Bases , or too many Tenors for the Trebles and Bases , and too many Bases for the Tenor and Treble to make an Harmony: So in the Body there may be too much of one, or more Kind of Motions for other Kinds to make an Harmony of Health , as for Proof , too many Contracting motions make the Body too Dry , and Contract Diseases ; as for Example , if instead of Binding any thing, we should Break it by

by Pulling or Drawing too Hard together, or instead of Joyning of Parts, we should Knock them so Close as to Rive or Split them, or instead of Gathering such a Quantity of Matter, or Joyning such a Number of Parts, we should gather Twice or Thrice the Quantity; Numbers of the like Examples might be given, for all other Kind of Motions, as Dilatating or Expulsive, instead of Throwing out the Superfluities or Rubbish in a House, we should Pull down the House, and Disperse the Materials therein, Digging up the Foundation thereof. Likewise too many Dilatating or Expulsive motions may Disperse or Divide Parts, or Unsettle or Unground Parts, which Disunites, Weakens, and Dissolves Parts or Bodies. Wherefore all Contracting, Attracting, Retentive, Digesting, Dilatating, Expulsive motions in a Well-tempered Body, must move like the several Planets, every Sort in there Proper Spheres, keeping their Times, Motions, Tempers and Degrees; but too Many or too Strong Contracting motions cause the Gout, Stone, Plurisie, Hectick Feavers, Numb and Dead Palsies, Dry Liver, Brain, and many the like; and too many Dilatating motions cause Dropsies, Wind-collicks, Rheums, Shaking Palsies, Sweats or Fainting sickness, and Millions the like; and too Many or too Strong Expulsive motions cause Fluxes, Vomiting, Bleeding, and the like; and too Many or too Strong Digestive motions cause too much Blood, Fat and Flesh,

which is apt to Choak the Vital parts, or may Nourish some Particular parts so much, as may make them Grow and Swell out so Big, as they may be Disproportionable for the rest of the Parts in the Body. But still I must Remember my Readers, that all Dilatating motions are in the way of Expulsion, and all Attractions in the way of Contraction, and Digestions are Mixt motions taking Part from either side; then I must Remember my Readers, that there are Infinite ways or manners of Contractions, and Infinite ways or Manners of ways of Attractions, and so of Retentions, Dilatations, Expulsions, and Digestions, where every Change makes a several Effect.

CHAP. LVI.

Of that which Physicians name the Animal or Radical and Vital Spirits in Animal Bodies.

THose Humors or Parts Of and In the Animal bodies, which are named by Physicians to be Radical and Vital spirits. As for the Radical part, 'tis the Rarest and Subtilest Humor or Part in the Body, and it is not onely the most Rarifi'd part, but the most Clarifi'd part, it is the Fire and Flame of the Body, that gives the Body a Natural heat, and hath a Cleansing and Purifying faculty, which is Sympathetical to the Nature, and Cleanses and Purifies the Body generally throughout. There is no more
Difference

Difference between the Vital and Radical spirits, but onely the Vital are somewhat Groffer than the Radical, as much as between Oil and Flame; These Parts are made by such Dilating motions, as make pure Oil or Essence, as also Flame and Heat, the Vital is the Oil, the Radical is the Flame of that Oil; But so Necessary this Part of the Body is to the Whole Body, as when this Flaming Oily matter is Quenched out, or Put out by other Matter or Motions in the Body, the Body dies, that is, the General and Natural motions proper to the Animal body change, and the Body Dissolves. But, to conclude this Chapter, the Radical and Vital spirits are the Natural Aquavitæ or Brandwine of the Body, or the Natural Oil or Essence of the Body, as also the Natural Fire and Flame of all Animal bodies.

CHAP. LVII.

Of Cordials and Opium.

ALL Cordials work Sympathetically upon the Vital and Radical matter or Spirits in Animal bodies, by reason all Cordials have Inherent Virtues, or are Indued with such Temperaments and Motions, as the Radical and Vital Matter and Spirits have, which is the cause, that when such Things as are named Cordials, are given to Animal Creatures, they many times add much Strength to the Radical and Vital humor

humor and motions ; but Opium hath a Strong Antipathy to the Radical humor or Spirits , for it is apt to Put out the Flame , at least to Suppress it , and to Over-power the Agil motions in that Radical matter, which is the cause , that when Opium is well prepared with other Ingredients , that it works Strange Beneficial Effects to those Animals that are in Feavers , or that are Distracted ; for in Feavers , the Spirits Flame too much , setting the whole Body a Fire , or the Unnatural heat in the Body helps to Burn out the Vital or Radical matter faster than it should Burn ; also in Feavers the Motions of the Spirits are apt to move too Quick ; the like in Madness, all which Opium is apt to Suppress , and by the Suppression causes the Motions in the Spirits and Body to work more Slower, and then more Regularly.

CHAP. LVIII.

Of Pleasure and Pain.

ALL Evacuations have Expulsive motions, if the Expulsive motions be Regular, it is Pleasure ; if the Expulsive motions be Irregular, they cause Pain ; for all Irregular and Cross Sensitive motions is Pain, and all Regular motion is Pleasure : Indeed Pleasure and Pain is a Harmony or Discord of Sensitive motions.

CHAP. LIX.

The Nature of Purging Medicines.

MOST Purging Druggs are of the Nature of Hot Burning Fire ; for the Inherent motions therein Work according to the Humor or Matter it meets with, some Humor they Melt, making it Thin and Fluid, although it be Hard, Tough, or Clammy, as Fire doth Oar, which is Unmelted Metall, making it so Fluid, as it will run through a Gutter of Earth like Water : So do some Druggs make some Sorts of Humor run through the Body, either Upward or Downward. Again, some Druggs will Work upon some Humors, as Fire upon Wood, dividing the Humor into Small parts, as Ashes from Wood, which Naturally falls Downward : and some they will Dissolve by Mouldring and Crumbling, as Fire doth Stone, which runs forth like Sand, which is Stone indeed Bred in the Body. Some Druggs Rarifie the Humors into Wind, as Fire will Rarifie, and Evaporate Water, which is set Boiling thereon. Other Druggs will Work as Fire, that Distills out the Moist and Watery Substance from that which is more Gross ; But it is to be observed, that all Purging Druggs that work by Vomit, are somewhat of the Nature of that Kind of Fire we call Sulphur, or Oyl that is Melted, or Fluid Sulphur, when these Sorts of Druggs are set on Fire, as I may say.

say, by the Natural or Distempered heat in the Body, it Flies out Ascendingly, like *Ætna*, for it is of the Nature of Sulphur to Ascend as Flame doth; and certainly, all Bodies have such Motions Naturally Inherent in them, as make and produce such Effects, as Fire doth, on several Sorts of Humors, by which Motions the Body hath a Natural Cleansing faculty, which makes the Natural Purging quality; but when the Motions are too Violent, they oftentimes Destroy the Body with Burning-feavers, or Violent Fluxes, or the like; for the Fire in the Body is like a Fire in a Chimney, for when the Chimney is Clean, and the Fire Proportionable to Lie therein, it Warms and Comforts all about, and is Usefull for many imployments for the Necessaries of Life; but if the Chimney be Foul, or the Fire too Big, or too Much for the Chimney, it Sets all in a Flame, Consuming whatsoever it Incompasses, if it be not Quenched out with Cooling Julips, as with Water, or by Casting on Rubbish, or Gross materials, to Smother it out; as in great Fluxes, they will not only give Restraining medicines, as having a Natural Restraining faculty, but Thick meats, as Thickened milk, or the like; but when the Body is Restraining, or hath taken Restraining medicines, it is produced by Drying motions, as Contracting or Retentive motion, if they be Hot Retentive or Contracting motions, they Harden and Confirm the Humors, as the Heat of the Sun, or the Heat of the Fire doth Clay, which

which turns it to Brick or Tile, or those things we call Earthen Pots; and according as the Humor is Gross or Fine, the more Brittle or Hard, or Thick, or Heavy, or Thin, or Light it is; for some Humor is as Purcelline, or Chiney, others as the Groffer Earthen Vessels. Again, some Sorts of Contracting or Retentive motions draw the Humor, as when Bacon, Neats-tongues, or the like, are dried in a Chimney, or Oven, or the like; Other Sorts of Hot Contractions draw the Humor, as the Sun doth the Earth, drying up the Watery Spring therein; But if the Restringsencies either of the Body, or of the Medicines, be caused by Cold Retentive or Contracting motions, it Dries the Humors, as Cold^{and} Frost dries the Earth, or Binds up the Humors, as Frost binds up the Waters in Icy Fetters, or Thickens the Humors, as Cold Thickens the Water, or Vapor drawn from the Earth into Clouds of Snow. But I am to Advertise my Readers, that all Expulsive motions are not Fiery Expulsions; for there are Infinite several wayes of Expulsive motions and dilatations. Secondly, these Fiery motions do not always work Expulsively, but Contractively, Attractively, and Retentively, and Digestively. Thirdly, all Expulsive, Dilative, Digestive, Contractive, Attractive, Retentive motions are not Fiery, but there is such a Kind or Sort of Contractions, Attractions, Retentions, Digestions, Dilatations, and Expulsions, as belong to Fire or Heat, or as I may better say, produce

H h h Heat

Heat or Fire ; and as I said , there are Infinite several ways of each Kind of Motion ; as for Example , I will treat of one of them : a Bee gathers Wax, a Bird gathers Straw, and a Man gathers Sticks ; the Bees gather and carry the Wax to the Hive to make a Comb, to Lay or Hold and Keep the Honey ; the Bird gathers and carries the Straw to Build a Nest, to Hatch her Young ones in ; the Man gathers Wood to Mend his House ; these all Gather to one End, but yet Several ways ; for the Bees gather the Wax, and carry it on their Thighs ; the Birds gather the Straw, and carry it with their Bills ; the Man gathers with his Hands, but carries it Several ways, as on his Head, or on his Shoulders, or at his Back, or in his Arms, and millions of the like Examples may be given upon each Kind or Sort of Motion or Moved matter. Again , I must Advertise my Readers, that, though I say, there are Fiery motions in Druggs, and Natural Fiery motions in every Animal Creature, and so in many other Figures ; yet I mean not a Bright-shining Fire, although some are of Opinion , that in the Heart is a Thin Flame, and when that is Put out, or Goes out, the Creature Dies ; but I mean not such a Fire, for to my Apprehension there are three Sorts of Fire to our Perceivance, although there may be Numberless sorts, yet all of one Kind ; as for Example , there are those Creatures we call Animals, though some are Beasts, Birds, Fish, and Men, but not only so , for some are of one Sort,

Sort, and some of another ; for a Lennit is not a Parot, nor a Parot an Owl, nor a Horse a Cow, nor a Sheep a Dog, nor a Whale a Herring, nor a Herring a Plaife, nor a Plaife a Lobster, nor a Black-more is not a Tauny-more, nor an European an Ethiopian, yet all are of Animal kind ; So although there may be several Sorts of Fire, and so of the other Elements, yet all are of the Fiery kind ; likewise the Fiery motions make Several Figures, and Several Figures have Several Fiery motions ; for every Sort of Animals hath a Several Shape, and Several Motions belonging to that Shape : So in Fiery figures and Fiery motions ; but, as I said before, there are three sorts of Fire : The first is a Bright-shining, Hot-burning Fire, that is, when the Interior and Exterior Temperament of Matter, and the Interior and Exterior figure, and the Interior and Exterior motions be all as one. The second is a Hot-burning Fire, but not a Bright-shining Fire, such as Aqua-fortis, Vitriol, and such sorts of the same Nature, which will burn as Fire doth, but not after that Swift and Sudden motion ; for though they are both of an Interior nature, yet not of an Exterior, for the Bright-shining Fire is all Composed of Sharp points, as I may say, Lines of Points, but the Vitriol Fire is as Sharp-edged Lines, like a Razor, or Knife, or the like ; neither are their External motions alike, for Bright-shining Fire mounts Upwards, when it is not Supprest, or in a Straight Parallel line, for
H h h 2 Flame,

Flame, which is the Liquid part of Bright-shining Fire, although it moves in several Lines as it Ascends, yet the Lines they Ascend in, are Straight Diameter lines; but this Vitriol-fire Descends, as it were, Downwards, or Divides as Streams of Water do, that Dig themselves a Passage thorow the Earth, so this Vitriol cuts a Passage thorow what it works on; neither can this sort of Fire work so Variously as Bright-shining Fire can, by reason it hath not so many Parts, for Points will fall into more Parts, and are more Swift in Motion, than the Edged-lines; as for Example, Dust, which is Numerous Little Parts heap'd together, will be more Agil upon the Least motion, although it be of a Weighty Nature, as of the Nature of a Stone, than small Hairs, which be of a Light and Weightless nature, but being not Divided into so many Parts, cannot move so Nimbly, as being United Lines; but if you Cut the Hair into Small parts, it shall Move with more Restless motion, than the Sand, by so much the more as the Substance is Lighter. The third sort of Fire is that which I call a Cold Dull Fire, such as Brimstone or Sulphur, Mercury, Salt, Oil, or the like; This Sort in the Interior nature is of the Nature of Bright-shining fire, both in the Motions and Temperaments of Matter; but not in the Exterior, for it is composed of Points, but those Points are turnward Inwards as toward the Centre; but as soon as it touches the Bright-shining Fire, it
strait

it turns the Points Outward, for those
 Points soon catch hold of those Straight Circum-
 ferent Lines, and Break them in sunder, which
 as soon as they are Broke, the Points are at
 Liberty, and taking their Freedom, they
 Mount in a Flame; but when those Lines are
 not Dissolved by Fire, but Crack, as we will
 Snap a String asunder, then they onely Sparkle
 Fire out, but not Flame; but of Mercury or
 Quick-silver, the Interior nature is Fire, but
 the Exterior is Water, for the Exterior moves
 in Extenuating Circles as Water doth, and so
 much as to make it Soft and Fluid, but not so
 much as to make it Wet; for though it always
 gathers into Spherical Figures, which shews,
 that the Exterior would run into Wet, but that
 the Interior hinders it by Drawing the Circles
 Inward, as Cold doth Water into Hail-stones,
 yet the Interior wants the Force to make it so
 Hard and Firm; but, as I did advertise my
 Readers before, that all sorts of Fire work ac-
 cording to the Matter they meet with, yet
 none works so variously as the Bright-shining
 Fire, which makes me think, that Drugs are
 more of the Nature of Bright-shining Fire, than
 of the two other Sorts, because they Work in
 the Body according to the Humor they meet
 with, for if they meet with Waterish humors,
 they Boil them as Water in a Pot, which either
 Boils over the Mouth of the Stomach, or Eva-
 porates out in Sweat like Dew, or Draws
 Downward, like as in Showers of Rain; or they
 Mele

Melt Humors like Metall, or turn Humors like Wood into Ashes, or Calcine the Humor, where some Part is Fixed, other Parts are Volatile; as for Example, Rhabarb hath a double Faculty, some Humors it Expels out, others it Binds up; for Rhabarb is both Purging and Restricting, as it is to be observed in great Fluxes; for what it doth not Cast forth, it Confirms to a more Solid Substance, so as it doth Expulse and Contract at one time, as I may say, according as it finds the Humor it works with. Again, some Drugs move Several Expulsive ways, as by Vomit and Stool, where the Vomiting is Produced with Ascending Expulsions, Siege with Descending Expulsions, but the Descending Expulsions are of the Nature of Vitriol Fire, all that Expulses Ascendingly, is of the Nature of Sulphureous Fire; but the Generality of Druggs works like Bright-shining Fire, according to the Nature of the Matter it meets with, as I have formerly described.

CHAP. LX.

Of the Motion of Medicines.

AS I have said in my former Chapter, that All Medicinal Druggs, or Simples, especially those that Purge, are of the Nature of Fire; for the Motions therein most commonly Work a-part, according to the Humor they meet with, as Fire doth, which in General is to Move so and so;

so ; yet the Natural motions in Druggs , and likewise in Fire, are Expulsive, and all that is Expulsive, is by Antipathetical nature, Striving to Destroy United parts , and all Contractive motions are by a Sympathetical nature, Striving to Unite by Imbracing or Drawing parts together ; yet according to the Nature of the Body they Work in, the Contracting motions may be Antipathetical, and Expulsive motions may be Sympathetical, the one in Expelling the Superfluous and Corrupted humors , the other in Contracting them into a Disease, but most Diseases are Cured by Contrary motions ; for if they be Diseases of Expulsions , they must be Cured by Contracting or Retentive medicines ; if they be Diseases of Contractions, they must be Cured by Expulsive medicines, or else Dilating or Attracting ; for though the Motions of Attraction be Agreeable, or of the Nature of Contraction, that is, to Draw or Carry all to a Centre , the only Difference is, that Attraction makes it self the Centre, drawing all things to it , but Contractions make the Matter they Work on, part of the Centre with them ; but all Attractions are Insinuating motions , Inviting and Drawing all toward Themselves, or like a Man that should Draw a Dish of Meat, or as if one should Suck a Breast or Udder , but Contracting motions are rather to Bind, or Knit up Parts together ; but if the Diseases proceed from Dis-uniting motions, then Retentive medicines must be Applied , which are to Firm,
Hold,

Hold, or Settle parts that are Loose, ^{and} Unsteddy ; but if the Diseases proceed out of Disorder and Irregularity, they must be Cured by Digestive medicines, which is to put every Part in Order, and in its Proper place ; Like wise States-men, that are neither Partial nor Malicious. But Readers, know, that though I say, all Diseases must be Cured by Contrary motions, yet the Motions that are in such Medicines, must Sympathize and Agree with the Constitution of the Body. Lastly, it is to be observed, that every Degree in the Disease must be followed with the same Degree in the Medicine, whether Swift or Slow, Strong or Weak, More or Less, that is, you must match your Medicines to the Disease ; but all Purging medicines are Dilative or Expulsive ; all Restricting medicines are Contractive and Retentive ; all Drawing medicines are Attractive ; all Restorative or Reviving medicines are Digestive ; and those Contracting medicines that must Cure the Body, must Sympathize with the Natural Health, and Constitution of the Body, not with the Disease, for these Motions Draw, Gather, or at least Knit and Bind up the Sound parts from the Corrupted parts, lest they should Intermix ; and Retentive remedies do not only Stay those Parts, that are apt to Dis-unite, but give Strength, and hold out the Assaulting motions in Mistedpered matter ; and all Attractive medicines that Sympathize with the Natural Constitutions of the Body, Suck and Draw forth from the Corrupted

ted matter, the Pure, which is mixed or involved therein; but those Attractive and Drawing medicines, that are applied to Outward Sores, or the like, must have a Sympathy with the Malady or Putrefaction, for all Aversions do cast Outward, or From them, not draw To them. As for the Expulsive Remedies, they must carefully be applied, lest they should cast forth the Wrong Humor, by which the Malignant grows more Powerfull, or else they should carry out more Humor than the Strength of the Body will permit, or should be so Weak, or of such a Nature, only to Disturb and Unsettle, but not Carry forth, from which Disturbance great Inconveniences or Deadly quarrels in the Body may arise; Wherefore, these Medicines are more Dangerous than any other Sort, although no Medicine can be Safely applied, unless the Strength and Nature be answerable to the Constitution of the Body, or the Diseases in the Body, no not those we call Restorative or Reviving remedies, which work Digestively, such as Cordials, or the like, for when there is more Applied than will agree with the Constitution of the Body, or with the Temper, or Degree of the Disease, they turn from being Assisting Friends to Assaulting Enemies, for when they have more Force than Regular work, they put in Disorder those Regularities for want of Regular employment; for it is against the Nature of Animate matter to Desist from Moving or Working, but it is not against Nature to Change

and Alter the Motions. The several Degrees and Natures of Druggs of every particular Drugg and Simple, I leave my Readers to Learn from the Herbal, where perchance some of it may be Discoursed of Rightly or Effectually, howsoever it is too Laborious a Study or Practice for me.

CHAP. LXI.

Of Purging.

ALL Purging Druggs have more of the Penetrating and Subdividing motions and qualities or proprieties, than of the Attractive motions or proprieties; for it is not the Drawing together of several Humors, that Purgeth the Body, but the Dividing and Loosening the Humors, and then by Expulsive motions Driving all out of the Body; for all Purging and Evacuating Drugs or Medicines work according to the Matter and Motions they Incounter with in the Body of the Animal; but such Medicines, which we name Cordials, work more Sympathetically, for though the Motions in the Matter or Substance of Cordials, work Antipathetically with the Irregular motions and Mistempered matter in the Body, and endeavour to Expell that Mistempered matter, or to Regulate the Irregular motions, yet they work Sympathetically with the Natural and Well-ordered matter and motions, so that Cordials endeavour to

to Compose, Unite, and Strengthen the several Disordered, Dissevered, and VWeakned parts; and Purging Drugs indeavour to Divide and Dissolve all those Loose humors they meet with, and many times those that are Firm, Strong, and Well-tempered parts, Discomposing the whole Body, insomuch as Physicians are many times forced to give Cordials in great Evacuations, to Rectifie the Distempers, and to allay the Violent motions that the Purging Drugs have Made or Caused; and this is to be observed, that many times there be such Humors bred in the Animal body, as to be of the Nature of Purging Drugs or Medicines, which causes Fluxes, and Vomitings, and other Evacuations, and some so Violent, as to Dissolve the Nature and Life of the Body.

CHAP. LXII.

The Reason why one and the same Quantity of Purging Physick shall Purge some Bodies to Death, and not Move other Bodies, or at least not to that Degree.

THe reason one and the same Quantity of Purging Drugs or Medicines of one and the same Quality works so Differently in Several Bodies, and in one and the Same Body at Several times, is, that the Solidity, and Validity, and Facility of the Humors, as also the Quantity of Humors, in some are more than in others, and at

some time more than other times ; but the Humors of the Body , although there be but four , yet by their several Tempers and several Inter-changing motions work Divers Effects ; but I will Similize the several Humors to several Grounds or Travelling ways , and Drugs to Oxen and Horses ; For Ways , some are Dusty and Dry , others Stony and Hard , some Tough and Clammy as Clay , some Muddy , Miry , or Dirty , others Watery and Wet , which causes Labourers to Yoke more Oxen , or Harness more Horses , to add more Strength , not onely when their Draughts are Heavily Loaden , but when the Ways are Ill and Uneasie to Travel in ; for in some Ways ten Horses will not Draw so easily as one Horse in other Ways , nor in the same Ways in Foul weather as in Fair weather , or in Winter as in Summer , but the Labourers are forced to Whip and Lash their Beasts to make them Draw : So in Animal bodies is Physick , which Pulls and Gripes the Guts , to Divide the Clammy Flegm , whereas in Sanguin bodies the Humors being Light , the Physick moves Fast , and the Humors flow Easily , but in Dry Melancholy Bodies the Humor is so Hard , as the Physick is Foundred , like as Horses on Stony ways which make them Weak and Tired ; but in Cholerick bodies , the Humor is like Dust that Flies about. But there must be several Sorts of Physick given to several Constitutions , and several Sorts of Physick to one and the same Body at several Times , as Occasion serves ,

serves, like as Husbandmen Sow several Sorts of Grains in several Grounds, and in the same Ground several Sorts of Grains at several Times; also they Sow their Grains several Manners of Ways, and Order their Grounds several Ways: the like for Humors, some must be Digg'd up with Penetrating Medicines, other Humors Plow'd up with Fomenting Medicines, others Harrowed with Extenuating Medicines, others Raked with Drawing and Attractive Medicines, and some must be VVatered with Solvable and Soaking Medicines, and all Bodies must be Manured with Nourishing Meat, as Food. Thus Men's Bodies must be Husbanded according to the Nature and Constitution of the Soil, which is the Body.

CHAP. LXIII.

*Of the Agreeing and Disagreeing of Food, as
also of Physick and Cordials.*

VVHen as Food is taken into the Body, wherein is Agreeable Matter and Motions, it doth help to Increase and Assist the Matter and Motions in the Body, helping to the Consistence of the Body, as also for the Use of the Body, by which Food the Mind, or the Rational part, is also Increas'd; So other sorts of Food do cause a Disturbance, and many times a Destruction, for all the Several Parts and Degrees of Matter, and Changes of Motions, do
not

not Agree, although in one and the same Body, insomuch as when Disagreeing matter and motions enter into the Body through the Senses, or are made in the Body by Irregularities, it causes great Distempers both in Mind and Body; but some Food, or Substance, or Objects enter in, or are taken into the Body, that help to Rectifie the Inbred Disorders, as Cordials and Medicines, whereas some Objects, Food, or Cordial Medicines help more the Body than the Mind, and some more the Mind than the Body, according as they Sympathize and Agree, either in Substance or in Motion; but all Liquid or Rare Substances work more Suddenly than the Dense, and work more upon the Mind than the Body; the reason is, that all Motions, both Sensitive and Rational, are more Agil in Liquid or Rare Substance or Matter, than in Densfed, being more near the Nature of Animate matter, than Densfed matter is; and as Medicines and Food taken, help both the Body and Mind, as also some do Distemper both the Body and Mind; So do Outward Objects, as several Sights, Sounds and Touches, insomuch as they will many times Cure a Disease, but more often Cause a Disease, also they will Compose a Distracted mind, and many times Distract a Composed mind.

CHAP. LXIV.

*Of the Agreeing and Disagreeing of Humors,
Senses, and Passions.*

Sometimes the Humors of the Body and the Outward Senses Agree and Disagree; sometimes the Humors of the Body and the Passions of the Mind Agree or Disagree; sometimes the Passions of the Mind and the Outward Senses Agree or Disagree; and sometimes the Senses and the Passions Disagree or Agree with the Humors of the Body; as for Example, sometimes the Distempered humors in the Body make Extravagancy in the Senses, as we see in Feavers; and sometimes the Distempered humors of the Body make a Disordered Mind, as we see those that have Cholerick humors, Cholerick passions; Melancholy humors, Melancholy passions; Distempered humors, Extravagant Imaginations, and the like. Sometimes Extravagant Senses make Extravagant Fancies, sometimes a Superabundant humor makes a Strong Particular Appetite, as for Example, those in the Green-sickness, the Over-flowing or Increase of some Raw and Indigested humor will cause a Strong Particular Appetite, as some in that Disease love to Smell Strong smells, as Campher, Tanned Leather, Musty Bottles, or the like, or to Delight onely in one Taste, as Oat-meal, Coals, or Several Particular

ticular Tastes, or Extravagant Tastes not Natural to the Constitution of the Body, as to delight to Eat Coals, Leather, Candles, Cork, and millions of the like; and the Humor Increases, and is Nourished, by the Sympathy of that Extravagant Diet; for what the Senses take Pleasure in, the Mind Longs for. Again, some Humors Antipathize, as to Hate all Loathsome Tastes, Smells, Noises, Touches, and Objects. So Passions Sympathize with some Humors, and Disagree with others; for some Bitter humors make Cholerick passions, Sharp humors make Spitefull passions, Tough humors make a Dull understanding, Melancholy humors make Timorosity, Cholerick humors make Courage, and many the like; then the Senses and the Mind Agree and Disagree often, as some Objects will Astonish the Senses, and Ravish the Mind, Delight the Senses, and cause Love in the Mind; others which the Senses Dislike, cause Hate in the Mind, Pain in the Senses, Grieving in the Mind, Pleasure in the Senses, Delight in the Mind; but if the Senses and Mind disagree, then the Senses Like that, the Mind Hates; as for Example, the Sense is taking Pleasure upon an Object, which for the Cross disposition, the Mind Hates, or for some Injury done, or by some Neglect, or out of Envy; and as they Sympathize and Antipathize in their Working and Making, so in the Expulsions, Time works out a Passion, Accidents work out Passion, Evacuations work out Passion, the like in the Senses,

so

so many times Humors are Expulſed by Paſſions, and as the Superfluities are Purged out of the Body, after the ſame manner are Violent Paſſions from the Mind, for as the Body Purges by Siege, by Vomit, by Urine, by Spitting, by Sweating, by Bleeding, by Inciſions, and the like, ſo ſtrong Paſſions are Purged by Weeping, by Sighing, Groaning, Speaking, and Acting; but if the Increasing motions of the Humors in the Body, and the Paſſions in the Mind, be as Many, and as Strong as the Expulſive motions, then there is a Continuance of the ſame Humor or Paſſion, for whatſoever is Caſt forth, or Waſted, is Bred again.

CHAP. LXV.

*Of Outward Objects Diſagreeing with the
Natural Motions and Humors in
the Body.*

INward Commotions of the Body are often times cauſed by Outward Objects, as when the Senſes take a delight in ſome kind of Sound, Sent, Sight, Taſte, and Touch; as for Example, ſome will Swoon at a Fearfull noiſe, that is, at a Sudden or Unaccuſtomed or Tumultuous noiſe; others will Swoon at the Sight of Blood, or at any Cruel object, or at the Sight of a Cat, or many other Creatures; ſome will Swoon at Sweet Smells; others, if they ſhould Taſte Cheeſe, or any Meat they diſlike Naturally; and

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some will not only Swoon, but Dye Laughing with Tickling ; the reason is, that the Exterior motion Antipathizes with the Natural motion belonging to the Body , sometimes only to the Sensitive parts, sometimes to the Rational part, sometimes to both. The reason is, that the Disordered motions of the Outward senses Disorder the Interior motions, which makes the Body Sick, and the Mind Passionate, and sometimes the Brain Frantick ; and if they make not the Body Sick, nor the Brain Mad , yet those Antipathetical , and these Disordered motions never Fail to put the Sense to Pain, or move Passion ; but when these Antipathetical motions be too Strong for the Natural motions, belonging to the Body or Mind, it brings Death or Unrecoverable Madnefs ; for then the Natural motions, belonging to that Body , are as it were Extinguished ; Thus we may see , that the Outward senses may be Perfect, and the Inward parts within that Body may be Corrupt and Decayed : So likewise the Outward senses may be Infected, and the Inward parts Sound, and so some Parts of the Body Firm, and others Infirm, and some of the Outward parts or Senses Wanting, or Defective, others Free, Clear, and Distinguishing. The reason is, that some of the Sensitive Animate matter works Orderly, others Disorderly, and contrary to the Nature of the Body ; for as I have said before, some of the Exterior parts of the Body may be Numb'd or Dead ; the reason is, that the Natural

ral motions, belonging to such a Part of the Body, are Altered, for every Part or Parcel hath Proper motions belonging thereunto. But if in any Part of the Body the Natural motions onely work Irregularly, then it onely causeth a Pain in that Part; but if the Motions work Cross to the Nature of the Body, it causeth that Part to Die; but if they Alter but in Part, it causes onely a Numness, which is a Degree of being Dead; but if the Natural motions be onely Stopt by some Outward Accident or Actions, as by a Sudden Fright, which causes the Body to Swoon, by reason the Spirits are Contracted by the Fright into so Straight a Compass, and Thronged so Close together, that they cannot Move in Order, or by the Action of Lying or Pressing too Hard or too Heavy upon any Part, that Hinders the Spirits therein from Moving after there Natural manner, which causeth a Sleepiness or Numness in those Parts, that are Prest by Weight or Strength; those Disorders are soon to be Rectifi'd, as by giving Liberty, or helping the Spirits with Cordials, which give Strength to them, and set them at Liberty; but if the Sensitive parts be quite Altered from their Natural course; they seldome are Rectifi'd; but sometimes the Assistance of the Regular motions in the Body joyning as it were with one Consent, do Expel that Animate matter out of that Part wherein they work, contrary to the Nature of the Body, and Supplies that Part with Fresh and New matter, that

Moves as it should do. Likewise as the Sensitive Animate matter Works in some Parts of the Body Irregularly, and in other Parts Regularly, and in one and the Same Part sometimes Regularly and sometimes Irregularly, so it is many times with the Rational Animate matter, for sometimes that will Move Regularly, and sometimes Irregularly, that makes Frantick-men sometimes to be In their Wits, and sometimes Out of their Wits; but if their Madneſs be at certain times, as at Full of the Moon, or High Tides, or Springs, or Falls, or in the Midſt of the Summer; or when they keep an Evil or too Full a Diet, then it proceeds from thoſe Outward accidents, which give Aſſiſtance to the Diſordered motions, which Inhabit in the Body, the Original defect being in the Sensitive Animate matter; for this ſhews, that the Madneſs proceeds from ſome Diſtemper of the Body, which moſt commonly is in the Splene, or that which they call in Women the Mother, from which Parts ariſe Groſs and Noiſome Vapors, which Aſcend up into the Head, and Diſaffect the Brain, and many times the Brain is Diſaffected with its owns Diſtempers, and whenſoever the Brain is Diſtempered, the Rational Animate matter which moves therein, moves Irregularly; but when thoſe Times or Seasons are paſt, or that Over-fulneſs of Humor is Purged out, the Natural motions of Humor get Strength, and the Man is Well until the Return thereof. But if the Irregularity be
in

in the Rational Animate matter, it is most Dangerous, for it seldom or never is Cured, nor seldom hath Intermitting Fits, but as a Continual Feaver in the Body, so is a Continual Madness in the Mind. But I shall speak more of this in my following Chapters.

CHAP. LXVI.

*Of the Inward and Outward Senses, and
Parts of the Body.*

SOME of the Exterior Senses may be Extinguished, as Sight, Hearing, Sent, or Taste, or some Parts of the Body Numb or Dead, or some Disjointed from the rest, as Legs, or Arms, Toes, Breast, Eyes, Nose, or the like, and yet the Material parts Sound and Whole, which Material parts are the Vital parts, as the Brain, the Heart, the Liver, the Lights, the Splene, the Maw, the Midriff, the Kidneys, the Bladder, or the like; as for the Heart, and the Brain, there is such a Sympathising and Conjunction with the whole Body, as the least Distemper Indangers the Body, and the least Alteration of their Shapes or Figures Destroys the Life of the Body, but for the rest of those Vitals, or Fundamental parts, when they Decay, or are any way Impaired, the Life doth sink down, as it were by Degrees, according as those Parts Impair; but if they be Wounded, or Corrupted by Poisons, or Plaguy Infections, or
by

by an Absolute and Sudden Alteration from their Natural motions or Figures, then the Life is suddenly Extinguished; but the External figures of the rest of the Parts have not such a Sympathy to the Interior motions of the whole Figure; but when I say, the Exterior figure of the Interior parts, I mean, the Particular figure of every Particular part, not onely the Outward part, as Hands, and Arms, Legs, and Head, and Body, and the like, but of Brain, and Heart, and Liver, and so all the rest; for though they be Internal figures to the External figures, yet they be the External figures to the Internal motion that works in them.

CHAP. LXVII.

*The Sympathies and Antipathies of Sound
to the Mind and Actions.*

THE Bottom hole in the Ear is covered with a Thin Cawl or Felm, which is called the Drum of the Ear, where these Motions that Enter in at the Ear, Beat thereon, like unto Drum-sticks, and if the Felm, or Thin Skin, be Stretched Smooth, or Braced Straight with the Nervous Strings, the Sound is Clear and Loud, but if it be Weakly Braced, and the Nervous Strings Loose, and the Thin Skin Slack, the Sound is Low and Dull, by reason that Skin is so Soft by the Slackness, that the Bearing, or Striking, or Playing motion thereon

on cannot Rebound or Retort, but Sinks, and is Smothered therein; and if it be Stretched very Hard and Thin, then such Motions enter the Ear, which Peirce or Cut sharp, such as we call Shril Sounds, it doth not only Disturb the Natural motion in the Brain, but many times Breaks that Skin, or at least puts it to Pain; Likewise, if those Motions, that Enter in at the Ear, move Cross to the Natural motions in the Brain, it causeth Pain in the Head; Likewise, if the same Notes are often Repeated, it Fills the Head so full of this Particular motion, as they Over-power the Natural motions therein, and as I may say, causeth a Surfeit thereof in the Brain, being Glutted therewith, Tying not only the Sensitive part of the Brain, which causes Pain or Diseases, but Oppressing the Rational part of Animate matter in the Brain, causing a Hate thereto; and if the Vocal or Verbal Sound is Crossed, as by the way of Antipathy, it may Disorder both the Sensitive and Rational Animate matter in the Brain, so much, by Striking or Pressing in, and by Barring and Thronging out, as the Sense and Reason are so Disordered, that the Natural Government is absolutely Overthrown, from whence proceeds Madness, at least Extravagant Passions raised from the Heart; the like Disorder both in the Head and Heart, may proceed from each of the Senses; and as these or the like External Objects may Disorder by the Irregular and Antipathetical motions, the Health and Understanding, which
are

are the Interior motions, so Regularity and Sympathy of the Verbal or Vocal motions brought through the Ear, may Compose the Differences and Disorder of the Natural Interior motions, as Health, Reason, Understanding, Affection, or Reconcilement; as for Example, a Timely, Kind, Discreet discourse may Compose a Disquiet mind; for the Motions of Wise, Sober, Kind, Gentle or Eloquent words may turn the Motion of Troubled or Extravagant thoughts into a Smooth and Calm temper, or Regular order; Likewise Unkind, and Indiscreet, Double, False, Malicious, Hasty, Sudden, Sad, or Frightfull discourses, may Discompose and Disorder a Quiet and Well-tempered mind, Disorder the Regular motions, by Mis-placing the Thoughts, making a War in the Mind, giving Strength to some Thoughts, and Overpowering others: The like with Vocal Sounds. As for Musick, the Notes in Musick agree with the Motions of Passions, and the Motions of several Thoughts, as some Notes Sympathize with Passions, and with the several Thoughts, and Move the Actions accordingly, so others Discompose the Mind, and Imbitter, and Disturb it; for Slow, Soft strains on the Tenor and Bass, are as Commending, Extolling, Exciting, Threatning, Terrifying, Judging, which moves the Mind to Melancholy, from whence proceeds Fear, Superstition, Devotion, Repenting, Praying, and Vowing, which causes an Humble Submission, Dejected Countenance, Weeping

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Weeping Eyes, Heaved up Hands, and Bended Knees: and Slow Soft Notes, only on the Tenors, are a Sad Relation, Sorrowfull Laments, Mournfull Complaints, Pleadings, Petitioning, Acknowledging Faults, Begging Pardon, Implo-
ring Mercy, which moves the Mind to a Tender Pitty and Compassion, and a Charitable Love, from whence proceeds a Listning Ear, a Helping Hand, a Serious Countenance, a Sad Eye, with a Favouring Cast therefrom. High, Hard, Sharp Notes or Strains on the Bass or Tenor, is like Exclaiming, Incouraging, or Animating, Extol-
ling, Promising, which moves the Mind to Pride, Ambition, Vain-glory, Desire, Hope, which makes the Body Active, the Actions Ad-
venturous, Bold, the Eyes Darting and Quick. Low, Sharp Strains, and Cross Notes, and Un-
equal Times, move the Mind to Murmuring Words, Choler, Hate, Revenge, Fury, Despair, and Cursing, the Hands Tearing, the Leggs
Stamping, their Bodies Turning several ways, their Countenance Amazed and Gasty, and the
Eyes Staring. But Quick, Sharp Strains in Te-
nor Notes, and Soft Slow Strains on Treble Notes, are as Perswading, Flattering, Insinua-
ting, Professing, Inviting, Alluring; this moves the Mind to Love, the Thoughts to be Amo-
rous; this makes their Actions Affective, Kis-
sing their Hands, Making of Leggs, Composing their Garments, Offering their Service, their
Words Complemental, their Countenance Smiling, and their Eyes Glancing: and Quick,
L11 Sharp

Sharp Strains on the Tenor and Treble Notes, produce a Cheerfull Mind, they make the Thoughts Lively, the Countenance Pleasant, their Eyes Quick, their Discourse Wanton and Jestings, their Actions Laughing, Singing, Playing, and Dancing. But Slow, Low, Flats on the Basses and Tenor, move the Mind to a Dull Stupidity, wherein the Thoughts lie as Dead; this makes the Body appear like Senseless Statues of Stone without Motion, the Head bending Down, the Eyes fix'd to the Ground. But Chromatick Musick is like School Disputation, and Discord in Musick is like Quarrelling. These are the Grounds of Musick. Musick hath a Sympathy to the Rational motions, because the Rational Spirits move in Number and Measure, as Musical Instruments do. Thus as Notes are Set, the Thoughts are Placed, and as the Notes Change in several Tunes, so the Thoughts Move in several Passions, and as Notes are Composed, so are Thoughts, in Crotchets, Quavers, Semibriefs, &c. a Full Note is a Fixed Thought. Thus according as the Notes and Thoughts Agrée, the Mind and Musick makes an Harmony. If I have not matched my Strains and Notes, with Words and Thoughts properly, let those that Understand Musick and Rhetorick mend it, for I Understand neither, having neither Fed at the Full Table, nor Drunk at the Full Head of Learning, but Lived always upon Scattered Crums, which I Pick up Here and There, and like a Poor Lasie Beggar, that had

had rather Feed on Scraps, than Work or be Industrious to get Wealth, so I had rather Write by Guess, than take the Pains to Learn every Nice Distinction. And if my Book will not Please the Learned, yet it may Please the Vulgar, whose Capacity can onely Dig in the Earth, being not able to Reach the Celestial Orbs by Speculation.

CHAP. LXVIII.

The Knowledge of Diseases.

IT is not sufficient for Physicians to Study the Names of Diseases, and to know onely so much, as to Distinguish one Kind of Disease from another, as we should Distinguish Man from Beast, or so as a Horse from a Cow, or as that Horse is a Barb, or a Courser, or a Gennet, or a Turk, or an Arabian; but that this Barb is not that Barb, or this Gennet is not that Gennet, and the like. Likewise to know the Nature so, as to know how to Use it, and what's fit to Apply to it; as for Example, a Man buies a Horse, and he having onely an Old Saddle, that he was accustomed to Ride with on a Horse he formerly had, puts it on his New Horses back, yet although his Horse is of the same Country, or Sort of Horses, as his former Horse was, yet the Saddle may not be Fit for the New Horse, but may be either too Big or too Little, and by the Unfitness may Gall his Horse so sore, and

Corrupt the Flesh so much, as he may be a Scald back'd Jade, as long as he lives, if it Feters not as to kill him; So in Diseases, Medicines may be too Strong or too Weak, or they may Evacuate too Much or too Little, if they do not know the just Dimension and Extension of the Disease. Again, one of the same Sort of Horses may be so Dull, as hardly to move out of his Pace with the Spur, although it should Prick so Deep, as to make his Sides to Bleed, when another Horse of the same Sort shall Run over Hedge and Ditch, against Trees and Stones, until he Hurt himself, and Fling his Rider, or at least it Flings, and Leaps, and Snorts, and Stamps, and grows into a Furious heat; So Diseases, some must be Handled Gently, others more Roughly, for in Diseases you must learn the Disposition of the Disease, as of what Kind, Sort, or Breed it is. So likewise it is not enough for a Physician to Know what Drugs will Purge Choler, what Flegm, and what Melancholy, or the like, but they should Study to know the several Motions, which work in them, or else their Operations will be as their Employments are, which is Chancemedly; for otherwise a Physician neither Applies his Medicines Knowingly nor Skilfully, but Customarily, because they are usually given in such Diseases, whereof some do Mend, others do Die with them; but certainly, if Physicians would take Pains to Study the several Motions of the Diseases, and also the Drugs and Medicines

Medicines they give, and would do as Skilful Musicians, which make a Consort, where, although every one Plays upon a Several Instrument, yet they all make their Notes Agree, there would follow an Harmony of Health in the Body, as well as a Harmony of Musick in these Consorts. But, as I said before, it is not sufficient to know, how to Purge Choler, Flegm, Melancholy, and the like, for the Purging of those Humors doth not always work Cures; for some Diseases do not always proceed so much from the Loose Humors in the Body, as the Disordered motions in the Body; for Choler, Flegm, Melancholy are not Superfluous humors of the Body, unless the Quantity of Each be too Much for the Nature of the Body, for those Humors are part of the Body, and the Body could not Subsist without them, for they are several Mixtures, which serve to the Consistence of the Figure, and as some Motions Make and Mix such Humors, so other Motions carry the Humors like Tempered matter, or Lime, to the Creations or Reparations of the Figure, which is the Body, and if there were none of those Humors, the Figure would no more Stand if once a Decaying, than a House, which runs to Ruine for want of Stone, Brick, Wood, or Mortar, or the like; besides, if there were not Flegm, Choler would do like a Coach-Wheel for want of Moisture, the Motions would set the Body on Fire, and if no Choler, the Flegm would Drown it, and if neither
Flegm

Flegm nor Choler, Muddy Melancholy would Dam or Stop it up. But Physicians should Study Diseases so, as they may be able to Distinguish them, as we do the Different Faces of Mankind, or any other; for there are as many Several Kinds of Diseases as there are Animals, and as much Difference in one and the same Kind, as there are in the Several Shapes, and Countenances in Bodies, and Dispositions in Minds; besides, Diseases are like Parents and Children, as the Children may Resemble the Parents, or the Children of the same Parents may Resemble one another, and yet they are not all one; Again, Diseases may be like Half-brothers or Sisters, as some may have all one Mother, but not one Father; so some Diseases may be produced partly from such a Cause, and partly from Another. Again, Diseases may be Match'd, and some be like Widows, and Widows that Marry again, so Diseases may be Loose, or be quit of such a Producing Cause, and Joyn with Another; as for Example, a Cold Stomach is a Disease, and a Hot Liver is a Disease, and both may Produce other Diseases, perchance the Cold Stomach may be Cured, but not the Hot Liver, when the Cold Stomach is Cured, the Hot Liver is a Widow, which afterwards may chance to Match with a Cold Melancholy Splene, or two or three, or more Diseases may be Match'd together, as if a Man should have two or three Wives, or a Woman as many Husbands; likewise, Several Accidents may

may be Matched, or at least Commit Adultery, and get Bastardly Children; as for Example, a Great Heat may be Matched or Joyned with a Sudden Cold, which may produce a Great Fever, or other Diseases that usually Follow, and millions of the like Examples may be given. But, I desire my Readers, that they may not Condemn my Comparisons, as Extravagant and too Fantastical for so Grave a Subject, for I could find no Fitter to Express my Meaning; I would have Physicians as Skilfull, Knowing, and Learned in Diseases, as they are in the Customs, Manners, Humors and Persons of Men; and that they may as Knowingly distinguish the Difference, Alterations, Degrees and Alliances of Diseases, as they do the several Sexes, Faces, Countenances, Dispositions and Qualities of Men. Besides, who knows but that the very Thoughts of Men may be known by the Temper of their Bodies? for could Men come but to Learn the several Motions of the Body, which Ingenious Observations may come to do, they may easily come to Learn the Motions of the Mind, and so come to Know the Thoughts, which Thoughts are the several Figures therein, which Figures most commonly move Sympathetically with the Motions of the Body.

CHAP. LXIX.

Of Diseases in General.

AS for Diseases, they are Innumerable, and so Various, as no Diseases are just Alike, but there is some Difference; for though the several Sorts of Diseases are of One and the same Kind, yet every Particular hath some little Difference; So that Particular Diseased Persons, although they are Diseased with one and the same Kind or Sort of Diseases, yet the same Kind or Sort of Diseases moves not just Alike in several Bodies, like as Madness, although a Bedlam be Full of those Distempered men, which are named Mad men, all having one Distemper of Madness, yet they are not all Mad after One manner or way, neither is their Degree of Madness Equal; The like for all Diseases of the Body. Also it is to be observed, that many several Diseases may be produced from Divers Causes, so many several Diseases may be produced from One Cause, and but One Disease from One Cause; Also One and the same Kind or Sort of a Disease, may proceed from the Several and Different parts of the Body, as from the Stomach, Lungs, Liver, Splene, Head and Heart; also One and the same Kind or Sort of Diseases, may be produced from the Several and Different humors in the Body, as from Flegm, Choler, Melancholy, or Blood; also Ex-

terior

terior Distempers may cause Interior distempers ; thus Particular Diseases may be Variously Produced, and Various or Several Diseases Particularly Produced ; also Outward distempers may Joyn with Inward Distempers. But all Cold diseases are more easily Cured than Hot, if there be Timely Remedies Applied to them, before such time they be Crystallined, that is very Hard, Densd or Congeal'd ; but most Cold diseases, which are made by Cold motions, make the Several Parts of the Body, or Several Humors in the Body, like as when Frost that alters the Outward Form of Raw Flesh, or Rare, or Liquid Substances, which doth not alter them so, as to Change the Inward Nature, but onely the Outward Form or Appearance ; but all Cold diseases are made either by Cold contractions, or Cold dilatations ; as for Cold contractions, they cause those Parts of the Body, or Humors in the Body, to be as if they were Frozen or Congealed like Ice, which causes those Parts or Humors to be more Dense than Naturally they should be, which causes the Body to be Numb and Unactive, and Cold dilatations cause those Parts and Humors in the Body to be more Rare and Loose than by Nature they should be, which causes the Body to be Weak, wanting that Consistence that should give it Strength ; But in those Diseases Hot Remedies Cure them ; but in Hot Diseases, those Parts of the Body, or Humors in the Body that have Supernatural Hot motions,

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cause the Parts of the Body to be as Burnt, Scorch'd, or Dri'd, and the Humor to be more Agil, and Sharp; and Stormy, like a Tempest at Sea; but it is more facil to Thaw a Piece of Ice, than to Quench a House on Fire: So it is more facil to Cure Cold diseases, that are not CrySTALLIN'd, than Hot diseases, that Burn. But, to conclude this Chapter, Diseases are made by all Sorts of Irregular motions and Distempered matter, and some caused by Exterior Distempers and Irregularities, and some by Interior, and some by both.

CHAP. LXX.

The Reason why Animals are Hot, whilst they Live, and Cold when Dead.

THE Exterior and Interior Heat of some Living Animals is as Proper to the Nature of their Figure, as an Interior and Exterior Cold is to Fresh Water, or Quick-silver, or some Sorts of Plants, as Poppy, Night-shade, and many others; But when the Animal is Changed from being an Animal, as by that, we call Death, those Properties of Natural heat, made by such Motions and Matter as make an Animal, are Altered, by Moving and Working to some other Figure, that is not an Animal, so as that which is named Natural heat, is Changed with those Natural motions, Properly belonging to an Animal figure, for the Animal figure

figure and Animal heat do alter together. This is the reason, that when an Animal is that, which we name Dead, it seems to our Senses to be Stiff, Cold and Pale, like Earth, Stone, or the like; but when the Animal body is Dissolved, it seemeth to our Senses both of another Colour, Touch, and Form. But this is to be observed, that all Living Animals have not Exterior nor Interior heat in the like Degree, for some Sorts of Animals, as Fish, have neither such Interior nor Exterior heat as Flesh Animals have, for a Fish is Exteriously cold, and hath very little Interiour heat, and a Camelion is extremely Cold, both Interiously and Exteriously, and many other Creatures may serve for Examples. Likewise some Vegetables are so extremely Cold, both Exteriously and Interiously, as they will not Thrive in the Sun, as that, we call Night-shade. Wherefore, it is not Heat, that is the only Cause of Life, Health, or Nourishment, nor the Want of that Heat, that causeth Dissolutions, which we call Decay, and Death, but the Animate matter working such or such Effects, and making several Creatures, with several Constitutions, Temperaments, Nourishment, Consistence, Decays, and Dissolutions.

CHAP. LXXI.

*A Conclusion of this Part,
of Diseases.*

THere are amongst Animal Creatures, Diseases of Divers Kinds, and Divers Sorts, and Differences in one and the Same Sort, and some Curable, and some Incurable; but if any of the Vital parts be Perished, there is no Remedy, for there is not any Means or Ways, as Medicine, Cordials, Diets, Evacuations or Restoratives, that can make those Parts, that are Decayed or Perished, Perfect or Sound again, for Nature her Self cannot Do or Effect it without a New Creation.

CHAP. LXXII.

The Deitical Centre.

ALthough Infinite matter and motion was from all Eternity, yet that Infinite Moving matter is Disposed by an Infinite Deity, which hath Power to Order that Moving matter, as that Deity pleaseth, by reason there is nothing Greater than it Self, therefore there is nothing that can Oppose its Will. Likewise, this Deity is as the Centre of Infinite Moving matter, for though there can be no Centre in Infinite, by reason there is no Circumference, yet in respect

spect the Matter is Infinite every Way from and to this Deity, we may say the Deity is the Centre of Infinite matter, and by reason the Infinite Moving matter Flows as much To this Deitical Centre, as From it, it doth as it were Present it Self, or rather is Forced to be Ordered by its Infinite Wisdome, otherwise it would Run into an Infinite Confusion, with which there would be an Infinite, Horrid, and Eternal War in Nature; and though this Deity is as the Centre to Infinite matter, yet this Deity in it Self is as Infinite matter, for its Wisdome is as Infinite as Matter, and its Knowledge as Infinite as its Wisdome, and its Power as Infinite as both, and the Effects of these Attributes run with Infinite matter like Infinite Parallel Lines, Even and Straight, not Crossing nor Obstructing, nor can they Circumference or Circle in each other, the Matter and the Deity being both Infinite; neither is the Matter or Deity Finite to or in themselves, for Infinite matter hath no End or Period; neither can the Infinite Deity Comprehend it Self, so as it is a God to it Self, as Well or as Much, as to Matter, for this Deity is no ways Finite, neither to it Self nor Matter, its Knowledge being as Infinite as its Power, and its Wisdome as infinite as its Knowledge, and its Power as Infinite as both, and being Infinite, its Wisdome cannot be above its Power, nor its Power beyond its Wisdome, neither can its Knowledge Comprehend its Power, or the ways of its Wisdome, being all

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Infinite and Eternal. And though Nature is Infinite Matter, Motion and Figure, Creating all things out of it Self, for of Matter they are Made, and by Motion they are Formed into several and particular Figures, yet this Deity Orders and Disposes of all Nature's Works.

Great God, from Thee all Infinites do Flow,
 And by thy Power from thence Effects do
 Grow ;
 Thou Order'st all Degrees of Matter, just
 As 'tis thy Will and Pleasure, Move it must,
 And by thy Knowledge Order'st all for th' best,
 And in thy Knowledge doth thy Wisdom rest ;
 And Wisdom cannot Order things amiss,
 For where Disorder, there no Wisdom is.
 Besides, Great God, thy Will is Just, for why ?
 Thy Will still on thy Wisdom doth rely.
 O Pardon, Lord, for what I now here Speak
 Upon a Guess, my Knowledge is but Weak :
 But thou hast made such Creatures as Mankind,
 And Gav'st them something, which we call a
 Mind,
 Always in Motion, it ne'r Quiet lies,
 Untill the Figure of his Body dies ;
 His sev'ral Thoughts, which sev'ral Motions are,
 Do Raise up Love, Hope, Joys, and Doubts and
 Fear ;
 As Love doth Raise up Hope, so Fear doth
 Doubt,
 Which makes him seek, to find the Great God out.
 Self-

Self-love doth make him Seek to find, if he
 Came from, or shall Last to Eternity;
 But Motion being Slow, makes Knowledge
 Weak,

And then his Thoughts 'gainst Ignorance do beat,
 As Fluid Waters 'gainst Hard Rocks do Flow,
 Break their Soft Streams, and so they Backward
 go:

Just so do Thoughts, and then they Backward
 Slide,

Unto the Place, where first they did Abide,
 And there in gentle Murmurs do Complain,
 That all their Care and Labour is in Vain:
 But since none Knows the Great Creator, must
 Man seek no more, but in his Greatness Trust.

To



To my fust

R E A D E R S.

I Desire all those, that are Friends to my Book, If not to my Book, for Justice sake, to believe, that whatsoever is New, is my Own, which I hope All is; for I had never any Guide to Direct me, nor Intelligence from any Authors, to Advise me, but Writ according to my own Natural Cogitations, where, if any do Write after the same Manner, in what Language soever, that they will Remember my Work is the Original of their Discourse; but they that Steal out my Opinions, or Compare them to Old Opinions, that are nothing alike, as if one should Liken two Men, that had neither Semblance in Features, Countenance, Proportion nor Complexion, because they are Two Men, as being of Mankind, surely they might be Judged to be Fools: But may all such be condemned as False, Malitious, Ridiculous; or Mad. But to such Noble Dispositions, as will Give Right, and Speak Truth, may they never Receive Injury, may Honor Crown them, Fame Applaud them, and Time Reward them with Antiquity.

Of

(Writ,

OF all my Works, this Work which I have
 My Best Belov'd and Greatest Favorite,
 I look upon it with a Pleasing Eye,
 I Pleasure take in its Sweet Company;
 I Entertain it with a Grave Respect,
 And with my Pen am ready to Protect
 The Life and Safety of it 'gainst all those,
 That will Oppose it, or Profess it Foes:
 But I am sure, there's none Condemn it can;
 Unless some Foolish and Unlearned Man,
 That hath no Understanding, Judgment, Wit,
 For to perceive the Reason that's in it.

I Find, since I have Read my Book over, I
 could have Inlarged that Part of my Book,
 that Treats of Diseases, much to the Advan-
 tage; but I must Intreat my Noble Readers to
 Remember, there are Natural Humors, and
 Metamorphos'd Humors, which are wrought
 by Several motions, as those of Elements; also
 that there are Natural Contractions, Attra-
 ctions, Retentions, Digestions, Dilatations, Ex-
 pulsions; likewise that there are Unnatural of
 all these Motions; that is such, as are Proper or
 Improper to the Natural Health, or Consistence
 of the Several Parts, and the Generality of the
 whole Figure; also that the Motions that make
 the Humor, and the Motions that move the
 Humor, may be quite Different, and some

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Parts

Parts of a Humor may be made by some
Sorts of Motions, and some by other Sorts of
Motions, where my Discourse of the Motions,
which make the Elements, will Inlighten the
Readers.

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H I S
 EXCELLENCY
 The Lord Marquis of
 NEVVCASTLE

His Opinion concerning the Ground of
NATURAL PHILOSOPHY.

SINCE now it is A-la-mode to Write of Natural Philosophy, and I know, no body Knows what is the Cause of any thing, and since they are all but Gueffers, not Knowing, it gives every Man room to Think what he lists, and so I mean to Set up for my self, and Play at this Philosophical Game as follows, without Patching or Stealing from any Body.

They talk that Motion doth every thing, I grant it, but this Motion must be from Something; They say, This Motion and Spirit was put in at the Creation of the World, I believe it, but still we are to seek what is the Cause of this Motion; Why then, thus for my Opinion,

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That

That Salt is the Life that giveth the Motion to all things in the World.

Make a Trench in a Garden, and fill it with Manure, and so Plant all manner of Herbs in it, and you shall have More and Better, than if you did not so, and this is Salt and Spirit of Salt, that doth Diffuse and Infuse it self into the Motion of every Kind.

Again, Graft on a Crab-tree a Hundred Several Fruits, lay Manure or Dung at the Root of it, and you shall have More Fruit and Fairer, and this is Salt in the Manure; and the Spirit of this Salt is so Thin, Peircing, and so Convertible, as it presently Turns into the Several Motions of all these Several Fruits, or else how could it be, being but One thing at the Root of the Tree, that it should Nourish so many Several Fruits, did it not Convert it self into all the Several Kinds of Motion in these Several Fruits? And this is Salt and the Spirit of Salt

Then for Husbandry, take all manner of Manure, Horse-dung, Cow-dung, Pigeons-dung, Lime, Chalk, Marl, Burnt Rags, Burnt Earth, Ashes, Stale, lay this upon Ground, and how Fruitful doth it make it, for all manner of Grain and Corn? and all this is but Salt and the Spirit of Salt.

Now we must consider, that Salt is Fire, every Body Feeleth how Hot Dung is, and every Body Sees what a Heat comes from it by the Smoak, which shews it to be that we call Fire, which is a Great Heat; now few Motions but

are

are made by Heat, and this is the Life of the World, and makes Motion, for without this it is Dead, *Terra Damnata*, and all this is but Salt and the Spirit of Salt.

Some say, Wind makes Motion, Wind is Thick Air, and I conceive, all Air is but a Thin Salt, a Salt-petre. Dr. *Payn* was a Good Philosopher, and a Witty Man, and he said, that he was of my Opinion that all Air was but a Thin Salt.

Again, Ice is made of Salt, for who knows not, that put Snow and Salt in a Pot and stir it by the Fire, and it becomes Ice? this is Salt.

The World is nothing but Salt, and that Salt is the Ground of every thing, Life and Motion.

The Chymists say well, that the World is made of Salt, Sulphur, and Mercury, but in Vegetables they take the Oily part to be Sulphur, which is not Brimstone, and the Watery part to be Mercury, which is not Quick-silver, but Salt they find plainly Salt.

All Animals, Vegetables, and Minerals, have all their Being from Salt, Man's Excrements, Salt; Man's Urine, Salt; Man's Blood, Salt; and there is no Doubt, but that, which is Life and Motion in Man, is his Heart, and there is the Fire, and so the Heart certainly is the Receptacle of Salt. For Vegetables, I have proved sufficiently all their Production to be by Manure, which is Salt and the Spirit of Salt. Now for Minerals, there is no Chymist, but can draw

draw you Salt out of any Mineral, and that which they subsist most of is Salt. And all things either Alive or Dead, or any thing that is a Substance, Chymists can still get Salt out of them; Therefore all is Salt, which is the Life of all things. Now there is Volatile Salt and Fixed Salt, that is, the Volatile flies away, and the Fixed Salt remains, but I am confident a greater Fire, as a Furnace, would turn all your Fix'd Salt to be Volatile.

For the Sea, every one Confesses and Knows, there is a great deal of Salt in it, and that makes it look Green as Grass, as Trees, and the like; and I am confident, that this Salt in the Sea is the cause of the Ebbing and Flowing, and not the Moon; The Motion of the Ebbing and Flowing, as my Wife says, is so Rational, as truly I believe it, and is thus: When it Flows it is a Half circle, and Convex, where it Flows, one Wave overtaking another, before, and Concave behind, and when there is no more Force of Water left behind to Thrust it forward, then all the Weight being Before, and nothing Behind, then that Weight Presses it back again, and then the Half circle is altered, for what was Convex before is now Concave, and what was Concave is now Convex in this Retrait; but as it Flows to us, it Ebbs in some other Place, and as it Ebbs to us, it Flows in some other Place, so that it keeps the Figure still, where it Flows, and where it Ebbs, that is, where it Flows it is Convex, and where it Ebbs it is Concave, and this is Rational enough.

Now

Now for the Sun, what that is, I may Guess as well as any, since no body tells what it is, onely *Kepler* says, it is the Hardest Body in the World, Inflamed, and I believe that, but he doth not tell what Stuff it is made of; Other New Philosophers will have it a Flame, and nothing else, which is Impossible, for there is no Flame but hath something to Maintain it, or else it must go out; no Flame of a Candle but hath a Wick and Tallow to Maintain it; no Lamp, but hath a Wick and Oil to maintain it; no Fire, the greatest Flame, but hath Fuel to Maintain it; The Sun, no doubt, is a great Fire, and must have something to Maintain it; But before I deliver my Opinion to you, I desire leave to make you a little Relation, and it is this: Dr. *Payn*, a Divine, and my Chaplain, who had a very Witty Searching Brain of his own, being at my House at *Bolsover*, lock'd up with me in a Chamber, to make *Lapis Prunellæ*, which is Salt-petre and Brimstone Inflamed, looking at it a while, I said, Mark it, Mr. *Payn*, the Flame is Pale, like the Sun, and hath a Violent Motion in it like the Sun; saith he, It hath so, and more to Confirm you, says he, look what abundance of Little Suns, Round like a Globe, appear to us every where, just the same Motion as the Sun makes in every one's Eyes; So we concluded, the Sun could be nothing else but a very Solid Body of Salt and Sulphur, Inflamed by his own Violent motion upon his own Axis; and as he Shoots out Beams of Comfortable Salt

Salt, to Inliven every thing, so he Draws Proportionably from every thing, which keeps him at one Constant Being, like the Sea, whose Vapors are Drawn up and Fall down Equally, and so can be neither Bigger nor Less, for it is not the Banks that can keep it in, but wheresoever it Overflows, it Loseth as much in some Part of the World.

The Sun is Pure without any other Mixture, but what I have spoken of; they talk of a Fire in the Earth, and a Sun in the Earth, which I believe is Salt, but mingled with the Gross Body of the Earth, which the Sun is not, but of the Purest Matter.

I confess, that I am apt to believe with *Galileo*, that all the Planets are Worlds, and am also of *Copernicus's* Opinion, that the Sun stands still, and the Earth goeth about, and I believe all the Fixed Stars are Suns, for they have the same Twinckling motion in them that the Sun hath, which the Planets have not, but a Second Light, and no doubt but there are many Planets about those Fixed Stars, which I think are all Suns.

This is my Opinion, which I think can as hardly be Disproved as Proved, since any Opinion may be Right or Wrong, for any thing that any body knows, for certainly there is none can make a Mathematical Demonstration of Natural Philosophy, and so I leave it to the Mercy of my Readers.

W. NEWCASTLE.

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FINIS.

E R R A T A.

IN the second Epistle to the Reader, page penult. thereof, line 18. leave out, *without Substance.*
Ibid line 22. for *Substanceless* read *Violent.* In the Preface, page penult. line 15. read *Figures.*
 Page 7. line 8. for *all of the Matter* read *all the Matter*, page 4. line 1. for *and* read *an*, page 17.
 line 28. for *Principal* read *Principle*, page 21. line 12. for *Producer* read *Producers*, *ibid.* line 18. read
Incorporateth, page 34. line 6. for *bounds* read *binds*, page 36. line 26. read *is in a perpetual Motion*,
 page 37. line 11. for *in* read *is*, *ibid.* line 17. leave out *to*, *ibid.* line 20. after *dispense* set *and*, page
 40. line 21. for *rending* read *renting*, page 45. line 25. read *Self-motion*, page 46. line 1. leave out *as*,
 page 47. line 18. for *composed* read *compassed*, page 52. line 18. read *There are so various Motions*, page
 53. line 20. for *but I shall* read *I should*, page 54. line 16. for *Womb* read *Parts proper for it*, page 74.
 line 12. for *Creature* read *Creator*, page 76. line 4. for *won* read *lost*, *ibid.* line 12. for *or* read *and*, page
 83. line 26. after *quite* set *different*, page 88. line 4. after *whole* make a stop, page 90. line 1. after
thoughts leave out the stop, page 106. line 24. for *this, is* read *this is*, page 110. line 5. read *Figur-*
ative, *ibid.* line 13. read *Sympathize*, page 113. line 4. after *Certainly* set *In*, page 116. line 2. for *or*
 read *and*, *ibid.* line 4. read *and some degrees*, page 119. line 26. read *some have high fore-heads*, page
 120. line 14. leave out *after*, page 144. line 24. for *ruggedness* read *smoothness*, and line 25. read
softer or harder, page 146. line 9. leave out *In*, page 157. line 12. after *metres* set *is*, page 169. line
 15. read *Retentive*, page 176. line 9. for *the read there is*, page 182. line 21. for *her* read *their*,
 page 197. line 14. for *Circular* read *Circle*, page 200. line 31. leave out *the*, *ibid.* line 28. leave out
the, page 206. line 18. read *stick*, page 210. line 14. for *in* read *is*, page 225. line 15. after *Circle*
 read *it*, page 227. line 10. read *be extended*, page 233. line 3. read *as for Vegetables*, page 243. line 5.
 for *animated* read *Interior*, page 262. line 10. read *Disorder*, page 265. line 12. read *Inanimate matters*
mixture, *ibid.* line 24. for *with the Ear* read *with the Inanimate in the Ear*, page 268. line 14. for *greatly*
 read *greedily*, page 270. line 22. for *the read they*, page 272. line 21. after *Sense* set *and*, page 281.
 line 22. for *Arts* read *Parts*, page 284. line 8. after *Pencilling* read *and*, page 287. line 27. for *in* read
and, page 289. line 12. read *Sensitive Animate matter*, page 291. line 6. for *their* read *its*, page 297.
 line 22. for *draw lines* read *drawing Motions make Lines*, page 301. line 4. read *of the Candle*, page
 302. line 24. for *make stops* read *stop*, page 306. line 29. leave out *Not*, page 327. line 13. leave out *as*,
 page 331. line 17. for *about* read *In*, page 332. line 12. for *for* read *in*, page 344. line 19. read *and*
breaks not quite out, page 345. line 7. leave out *which*, page 361. line 18. leave out *a*, page 392. line
 8. read *to the head*, page 400. line 24. read *are one sort*, page 417. line 16. read *Cold and Frost*, page
 419. line 26. read *Bright-shining*, page 424. line 1. read *Loose and unsteady.*

